

|              |      |
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| REV:         | 2    |
| PREPARED BY: | MT   |
| CHECKED BY:  | TR   |
| DATE:        | 1/12 |
| REV:         |      |
| PREPARED BY: |      |
| CHECKED BY:  |      |
| DATE:        |      |
| REV:         | 1    |
| PREPARED BY: | PES  |
| CHECKED BY:  | STK  |
| DATE:        | 3/07 |

## SANDIA NATIONAL LABORATORIES

DRAWING NO.:

**C-5011STD**

SCALE:

NONE

CIVIL  
DISCIPLINE

### REGULATORY AND WARNING SIGN MOUNTING WITH POST INSTALLATION

#### KEYED NOTES:

SIGN

GALVANIZED RETAINER STRAP

BASE POST (3 1/2 FT. LONG)

GRADE

5'-0" RURAL INSTALLATION

7'-0" IN URBAN LOCATIONS OR WHERE PEDESTRIANS MAY BE PRESENT

3'-0"

3 1/8"

1 5/8"

1 1/4"

3"

3"

4

SIGN SAVER

1

2

3

4

5

6

1 SIGN POST ASSEMBLY INCLUDES SIGN POST, BASE POST, RETAINER STRAP, FOUR BOLTS AND NUTS. POSTS ARE PRODUCED FROM HIGH STRENGTH RAIL STEEL CONFORMING TO ASTM-A499-81, GRADE 60. GREEN BAKED ENAMEL FINISH, 7/16" HOLES ON 1 INCH CENTERS WT. 3 LBS. PER FT. X 10 FT. LONG POST COMPLETE, "EZE-ERECT" OR EQUAL. (ORDER INCLUDES 3 1/2 FT. LONG BASE POST.)

2 BOLT AND NUT ASSEMBLY, FOR CHANNEL POST. RAINBOW 03-120, 50 PER BOX OR EQUAL.

3 FLAT WASHER, FOR ITEM 2 . RAINBOW 03-122, 100 PER BOX OR EQUAL.

4 SIGN SAVER, PREVENTS SIGN FROM BENDING. INSTALL BETWEEN SIGN AND CHANNEL POST, PLACING RIDGES TOWARD INSIDE OF POST HORIZONTALLY. SIGN SAVERS ARE .080 ALUMINUM. RAINBOW 03-137, OR EQUAL.

5 BASE POST SHALL BE DRIVEN 3 FT. INTO STABLE SOIL. IF SOIL WILL NOT SUPPORT THE SIGN POST AND SIGN UNDER A WIND LOAD THEN THE BASE POST SHALL BE SET IN CONCRETE.

6 BRACKETS FOR STREET NAME SIGNS (NOT SHOWN ON DRAWING). BRACKET FOR CHANNEL POSTS INCLUDES 2 SET SCREWS AND 2 HEX HEAD BOLTS. RAINBOW 45-419 OR EQUAL. 90 DEGREE BRACKET INCLUDES 4 SET SCREWS WT. 6 OZ. RAINBOW 45-4511 OR EQUAL.

GENERAL NOTES:

1. SEE SANDIA DWG. 100026 FOR SIGN LOCATION STD.

2. FOR ANY SIGN OR COMBINATION OF SIGNS LARGER THAN (8) SQ. FT. OF AREA, ORDER "EZE-ERECT" 4 LBS. PER FT. X 10 FT. LONG POST COMPLETE OR EQUAL.

3. NOT LESS THAN 5'-0" RURAL/HIGHWAY INSTALLATION SETBACKS FROM ROADWAY OR SIDEWALK SHALL BE IN ACCORDANCE WITH MUTCD REQUIREMENTS.

4. SIGN LOCATION SHALL BE IN ACCORDANCE WITH MUTCD LATEST EDITION FOR ALL ROADWAYS.

\* NOTE: 2" SQUARE TUBULAR POST AND 3'-6" BREAKAWAY SIGN POST BASE CAN BE USED IN LIEU OF THE "U" CHANNEL POST.  
2'-0" DEPTH OF BURY WITH 12" DIA. CONC. FOOTING. WHERE UTILITIES ARE IN CONFLICT. HAND EXCAVATION REQUIRED.

SAND2012-8363P



|              |      |
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| DATE:        |      |
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| DATE:        |      |
| REV:         | 1    |
| PREPARED BY: |      |
| CHECKED BY:  |      |
| DATE:        | 6/01 |

SANDIA NATIONAL LABORATORIES

DRAWING NO.:

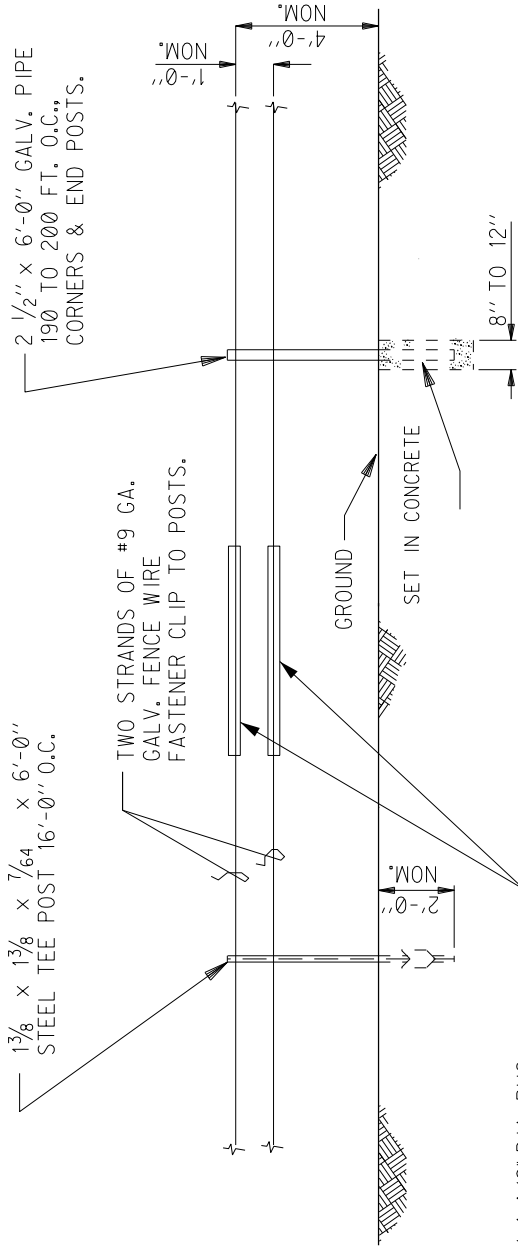
CJ1003

SCALE:

NONE

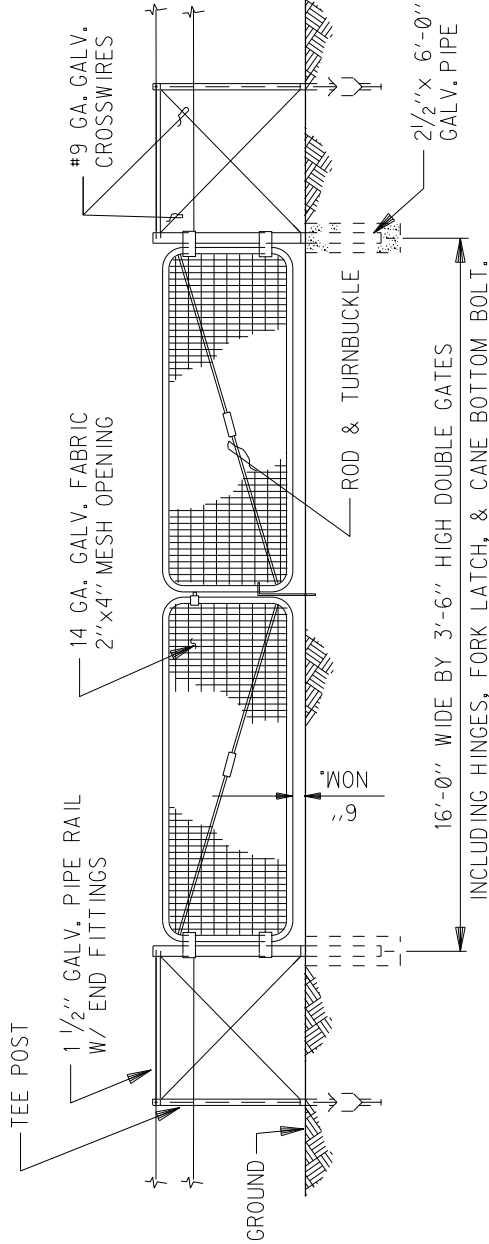
VEHICULAR CONTROL FENCE

CIVIL  
DISCIPLINE



\*10'-1 1/8" DIA. PVC  
HIGH VISIBILITY YELLOW  
FULL ROUND MARKERS  
BY HUBBELL -96 FRPE  
OR APPROVED EQUAL

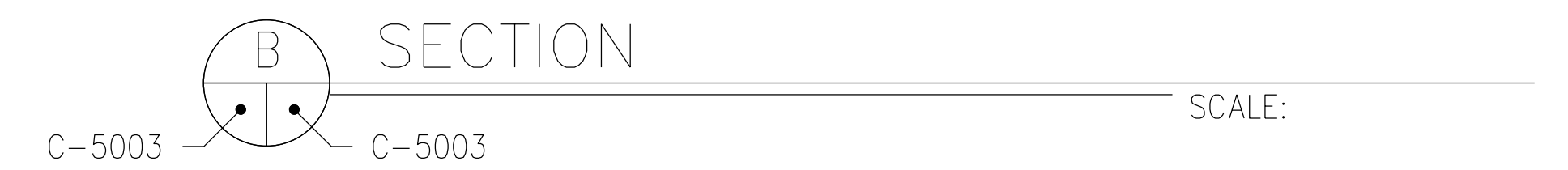
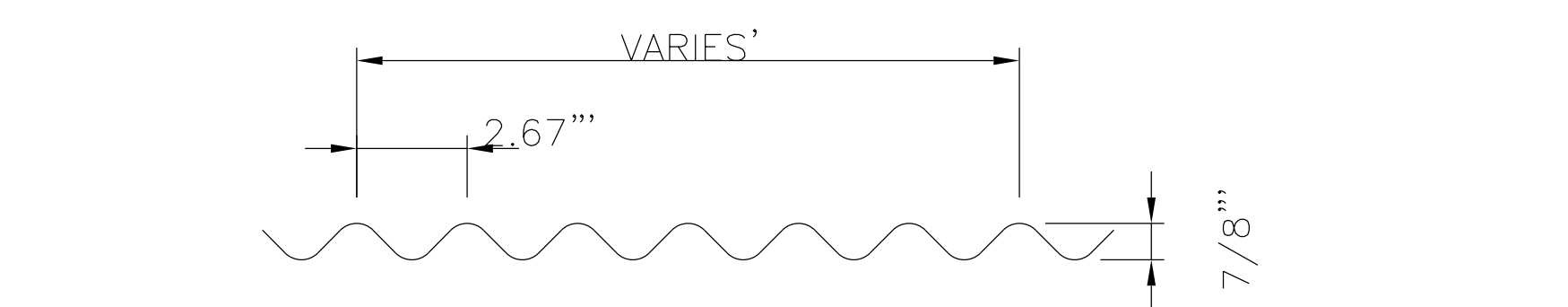
\* NOT REQUIRED IN CTF OR REMOTES





7'-6" HIGH SCREEN WALL

SCALE:

[illegible]

|              |      |
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| REV:         | 2    |
| PREPARED BY: | MT   |
| CHECKED BY:  | TR   |
| DATE:        | 1/12 |
| REV:         |      |
| PREPARED BY: |      |
| CHECKED BY:  |      |
| DATE:        |      |
| REV:         | 1    |
| PREPARED BY: | ESM  |
| CHECKED BY:  | SKN  |
| DATE:        | 6/01 |

SANDIA NATIONAL LABORATORIES

DRAWING NO.:

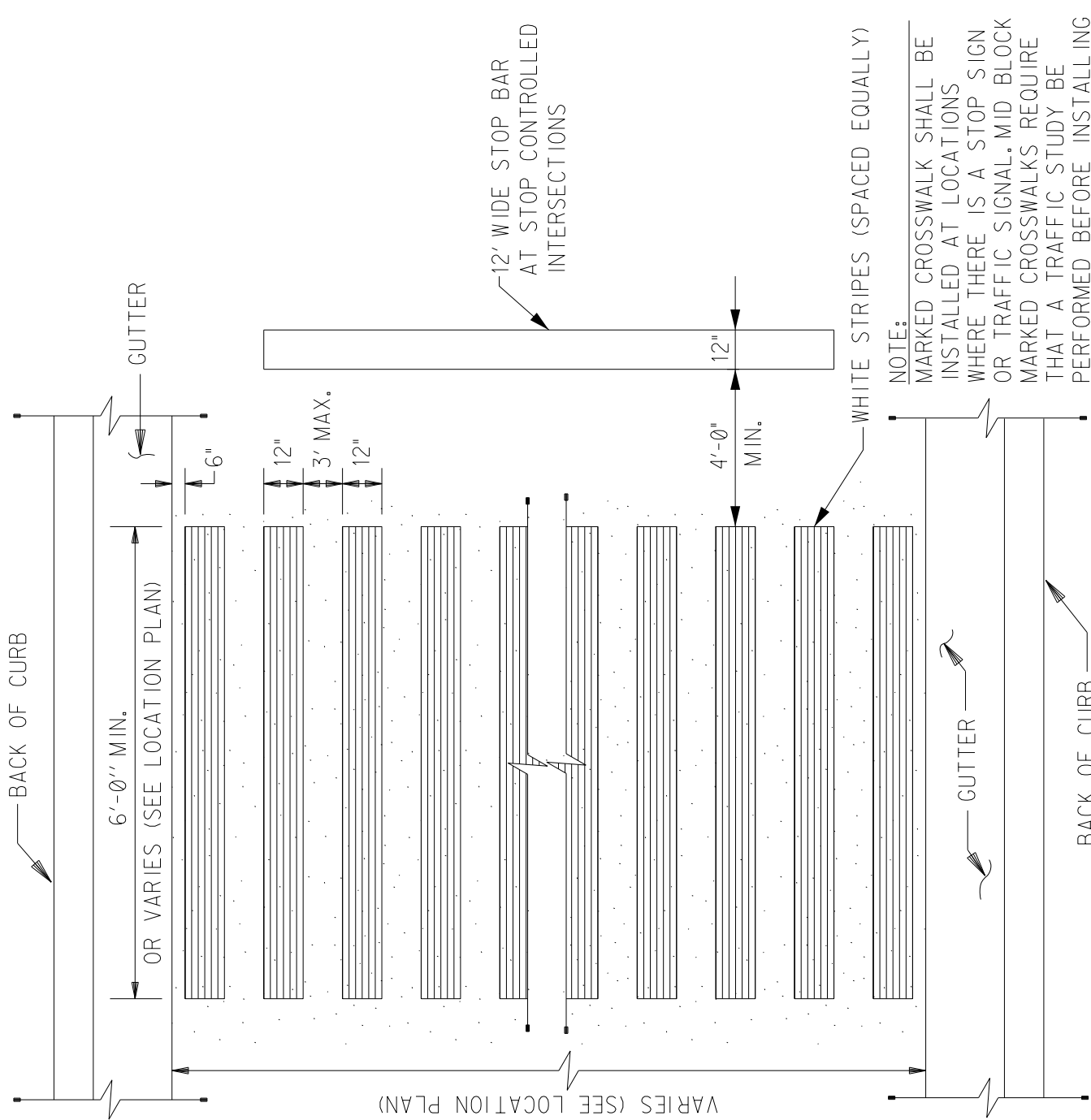
CP1001

SCALE:

NONE

CROSSWALK MARKING

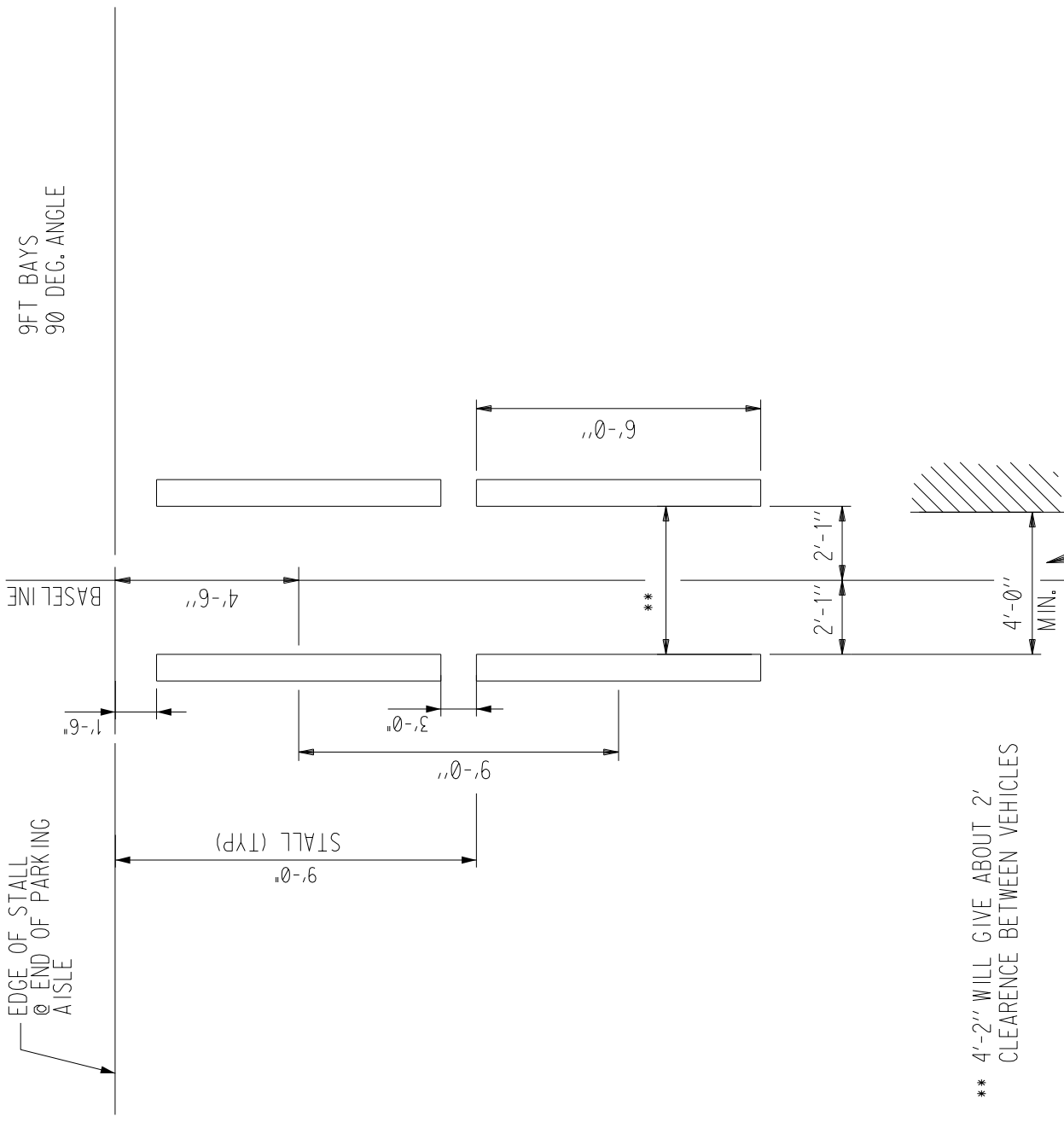
CIVIL  
DISCIPLINE



NOTE:  
CROSSWALK MAY REQUIRE YIELD PAVEMENT SYMBOLS AT CROSSWALKS INSTALLED AT NON CONTROLLED INTERSECTION. (SEE PLANS)

NOTE:  
CROSSWALK MARKING & STOP BAR SHALL CONSIST OF 12" WHITE REFLECTIVE TRAFFIC MARKING TAPE. "STAY-MARK" PERMANENT MARKING TAPE. MFD. BY 3M. APPLIED AS PER MFG'S RECOMMENDATIONS.

|                   |                                                        |                                     |                       |
|-------------------|--------------------------------------------------------|-------------------------------------|-----------------------|
| PREPARED BY:      | SANDIA NATIONAL LABORATORIES<br>FACILITIES ENGINEERING |                                     | DETAIL NO.:<br>CP1005 |
| CHECKED BY:       |                                                        |                                     | SCALE:<br>NONE        |
| DATE:<br>12-20-07 | REV:                                                   | 6' BUMPERS<br>PARKING BUMPER LAYOUT | CIVIL<br>STD SIT.DGN  |

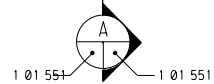


\*\* 4'-2" WILL GIVE ABOUT 2' CLEARANCE BETWEEN VEHICLES

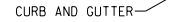
NOTE: DESIGN ENGINEER SHALL REQUEST AUTHORIZATION FROM SNL TRAFFIC ENGINEER PRIOR TO USING ANY PARKING BUMPERS ON A PROJECT.

FOR SINGLE BAY PARKING DISTANCE TO FENCE OR WALL

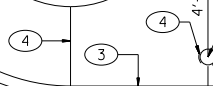




NOT TO SCALE



NOT TO SCALE



NO SCALE



SECTION

- 11 BUILD WALKWAY AROUND OBSTACLES WHEN CLEARANCE BETWEEN OBSTACLE AND EDGE OF WALKWAY IS LESS THAN 2'-6".

[illegible]

OLD FILE NAME: 101551A02

|               |  |
|---------------|--|
| OLD FILENAME: |  |
|---------------|--|

|          |      |         |
|----------|------|---------|
| STANDARD | DATE | 4-1 -91 |
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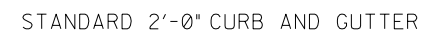
|    |            |
|----|------------|
| D+ | CP1 008STD |
|----|------------|



- ① EXPANSION JOINT. INSTALL 1/4" PNA DIAMOND DOWEL OR APPROVED EQUAL AT 18" O.C.
- ② POLYURETHANE SEALANT PER SNL STD DWG CP5008STD.



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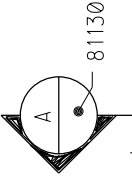
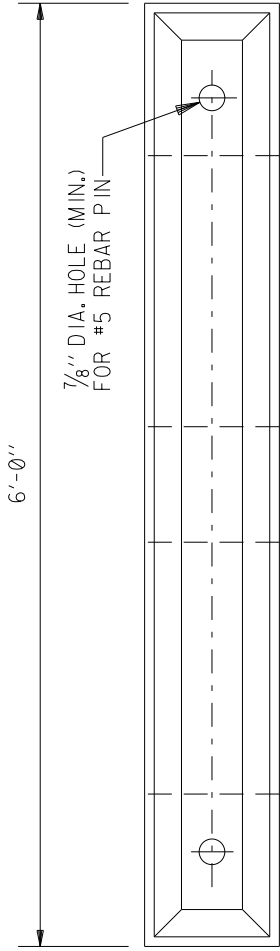


- GENERAL NOTES

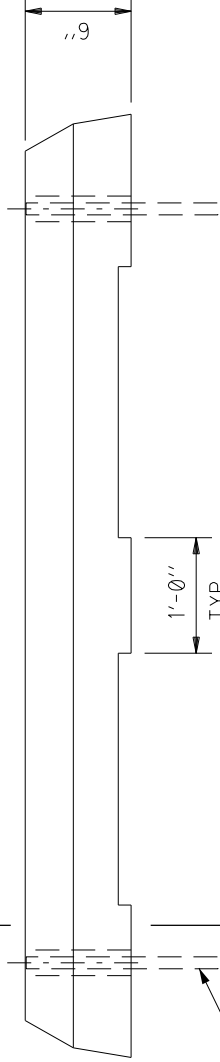
1. CURB AND GUTTER REQUIRES FORMING ON ALL FACES.
2. DIMENSIONS AT ROUNDED CORNERS MEASURED TO INTERSECTION OF STRAIGHT LINES.
3. EDGES NOT SPECIFICALLY DIMENSIONED SHALL BE EDGED WITH A 3/8" EDGING TOOL.
4. ALL CONCRETE CURBING TO BE PLACED ON 6" COMPACTED SUBGRADE. 95% COMPACTION.
5. SAWCUT, REMOVE AND REPLACE 12" WIDE STRIP OF PAVEMENT BEYOND LIP OF GUTTER WHEN CONSTRUCTING CURB AND GUTTER ADJACENT TO EXISTING A.C. PAVEMENT.
6. TRANSITION FROM STANDARD CURB AND GUTTER TO EXISTING SHALL BE COMPLETED IN ONE STONE - 6' LENGTH.
7. FOR CONCRETE CURB AND GUTTER, PROVIDE CONTRACTION JOINTS AT 60' O.C. PROVIDE 1/2" EXPANSION JOINTS 36' O.C. MAX., ADJACENT TO BUILDINGS AND WALLS, AT CURB RETURNS, AND AT EACH SIDE OF DRIVEWAYS.
8. THEORETICAL FACE OF CURB OR FLOWLINE.
9. ALL CONCRETE SHALL BE AIR-ENTRAINED, MEETING THE REQUIREMENT OF STANDARD SPECIFICATION 03300.
10. ASPHALT SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATION 02513.

|                                                                              |     |              |             |                              |      |             |           |     |     |
|------------------------------------------------------------------------------|-----|--------------|-------------|------------------------------|------|-------------|-----------|-----|-----|
|                                                                              |     |              |             |                              |      |             |           |     |     |
|                                                                              |     |              |             |                              |      |             |           |     |     |
|                                                                              |     |              |             |                              |      |             |           |     |     |
|                                                                              |     |              |             |                              |      |             |           |     |     |
|                                                                              |     |              |             |                              |      |             |           |     |     |
| P.O.                                                                         | REV | DATE         | DESCRIPTION |                              |      |             | DWN       | CKD | APP |
| PROJECT NO.                                                                  |     |              |             |                              |      |             |           |     |     |
| U.S. DEPARTMENT OF ENERGY<br>NINSA/SANDIA SITE OFFICEALBUQUERQUE, NEW MEXICO |     |              |             |                              |      |             |           |     |     |
| <div>SANDIA NATIONAL LABORATORIES<div style="float:right;"></div></div>      |     |              |             |                              |      |             |           |     |     |
| Curb And Gutter                                                              |     |              |             |                              |      | P.O.        |           |     |     |
| Standards                                                                    |     |              |             |                              |      | PROJECT NO. |           |     |     |
|                                                                              |     |              |             |                              |      | DRAWN BY    | TW        |     |     |
|                                                                              |     |              |             |                              |      | CHECKED BY  | CN        |     |     |
|                                                                              |     |              |             |                              |      | SNL ENGR    |           |     |     |
| DISCP: C                                                                     |     | SUB-DISCP: P |             | STD                          | DATE | 06/30/2001  |           |     |     |
| SIZE D+                                                                      |     |              |             | DRAWING NO.<br>CP3001STD.DGN |      |             | SEQ. SEQ. |     |     |

|                   |                                                        |                         |                       |
|-------------------|--------------------------------------------------------|-------------------------|-----------------------|
| PREPARED BY:      | SANDIA NATIONAL LABORATORIES<br>FACILITIES ENGINEERING |                         | DETAIL NO.:<br>CP5001 |
| CHECKED BY:       |                                                        |                         | SCALE:                |
| DATE:<br>12-20-07 | REV:                                                   | PRECAST CONCRETE BUMPER |                       |
|                   |                                                        | CIVIL<br>STANDARD       |                       |

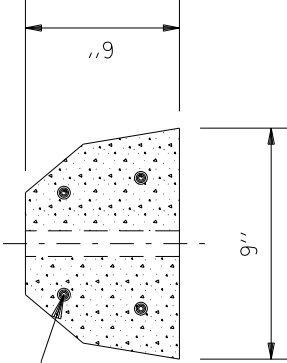


PLAN VIEW



#4 x 12" REBAR RECESSED 1/2" BELOW TOP OF BUMPER BLOCK. "NAIL SET" (TYP.)

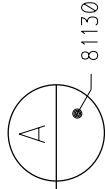
ELEVATION



NOTE:

USE 3000 PSI MINIMUM CONCRETE, 3/4" AGGREGATE.

NOTE: MINOR VARIATIONS ARE ACCEPTABLE.



SECTION

NOTE: DESIGN ENGINEER SHALL REQUEST AUTHORIZATION FROM SNL TRAFFIC ENGINEER PRIOR TO USING ANY PARKING BUMPERS ON A PROJECT.

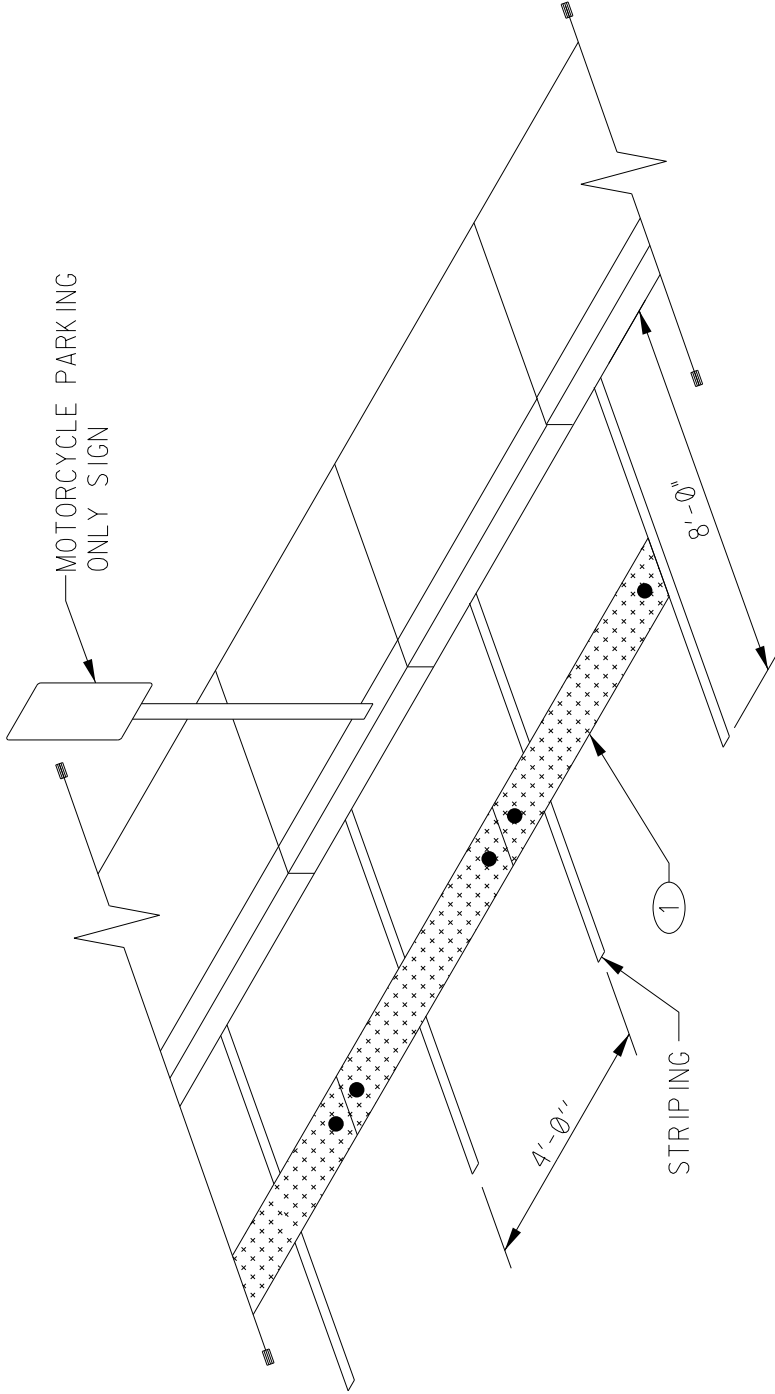
|              |       |                              |                               |
|--------------|-------|------------------------------|-------------------------------|
| REV:         | 1     | SANDIA NATIONAL LABORATORIES | DRAWING NO.:<br><b>CP5006</b> |
| PREPARED BY: | MP    |                              |                               |
| CHECKED BY:  | MB    |                              |                               |
| DATE:        | 12/07 |                              |                               |
| REV:         |       | MOTORCYCLE<br>STRIP          | SCALE:<br><br>NONE            |
| PREPARED BY: |       |                              |                               |
| CHECKED BY:  |       |                              |                               |
| DATE:        |       |                              |                               |
| REV:         |       | CIVIL<br>DISCIPLINE          |                               |
| PREPARED BY: |       |                              |                               |
| CHECKED BY:  |       |                              |                               |
| DATE:        |       |                              |                               |

GENERAL NOTE:

- 1. SIGN SHALL COMPLY WITH SNL SIGN STANDARD.

KEYED NOTES:

- ① 12" X 60" X 1/4" METAL PLATE PLACED AT THE MIDPOINT OF THE STRIPING LENGTH. TOTAL LENGTH OF PLATE CAN CONSIST OF 5' WELDED SECTIONS. ANCHOR PLATE TO ASPHALT SURFACE WITH 8" ANCHORS (ROUNDED TOP).



ISOMETRIC - MOTORCYCLE STRIP

SCALE: NONE

|              |  |
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| PREPARED BY: |  |
| CHECKED BY:  |  |
| DATE:        |  |
| REV:         |  |
| PREPARED BY: |  |
| CHECKED BY:  |  |
| DATE:        |  |

SANDIA NATIONAL LABORATORIES

DRAWING NO.:

CP5007STD

SCALE:

NTS

6" STEEL REINFORCED SLABS & SIDEWALKS  
WITH DIAMOND DOWELS

CIVIL  
DISCIPLINE

NOTE: CONC SHALL BE 4000 PSI  
AT 28 DAYS, AIR ENTRAINED PER  
SNL SPECIFICATON 03300 UNLESS  
OTHERWISE NOTED BY SNL ENGINEER

SUBGRADE TO BE COMPACTED  
TO 95% ASTM D1557

DIMENSIONS BETWEEN JOINTS OF  
CONCRETE PADS SHALL NOT EXCEED  
10' UNLESS OTHERWISE AUTHORIZED  
BY SNL ENGINEER

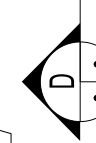
CONC SHALL HAVE TRANSVERSE  
MEDIUM BROOM FINISH PERPENDICULAR  
TO TRAVELED WALKWAY

EXPANSION JOINTS SHALL BE INSTALLED  
PER PLAN

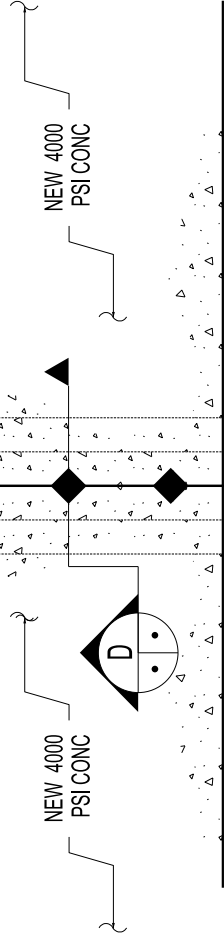
EXPANSION JOINT

1/4" PNA DIAMOND  
DOWEL OR APPROVED  
EQUAL

NEW 4000  
PSI CONC



NEW 4000  
PSI CONC



NOTE: TYPICAL AT EXPANSION AND CONSTRUCTION JOINTS

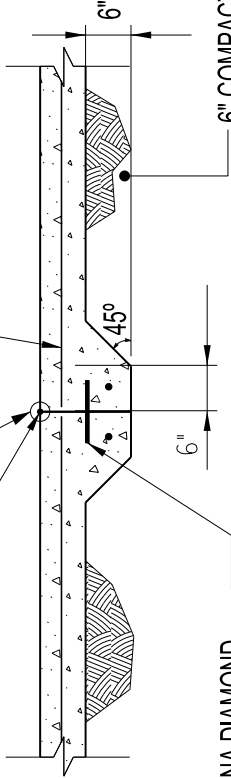
PLAN VIEW

SCALE: NONE

SEAL IN ACCORDANCE  
WITH SNL STD CP5008STD

EXPANSION JOINT

#3 REBAR 18" O.C. EACH WAY  
INSTALLED 1/3 DEPTH OF SLAB  
FROM TOP AS SHOWN



1 / 4" PNA DIAMOND  
DOWEL OR APPROVED  
EQUAL SPACED @ 18"  
O.C. SEE DIAMOND  
DOWEL LAYOUT THIS  
SHEET

SECTION

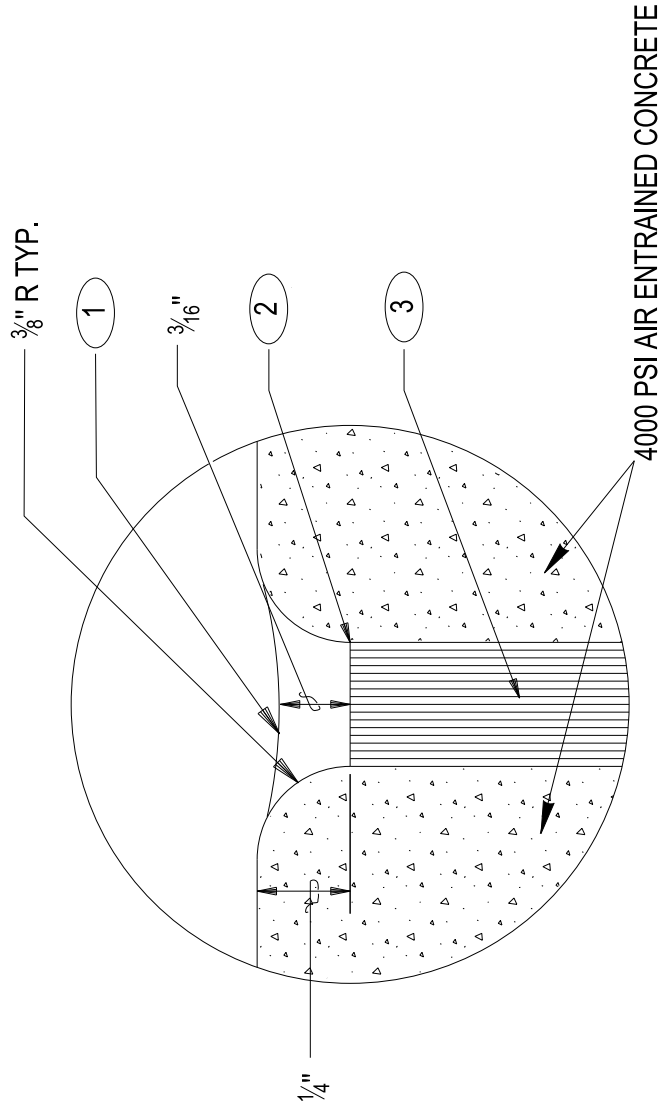


SCALE: NONE

DIAMOND DOWEL LAYOUT

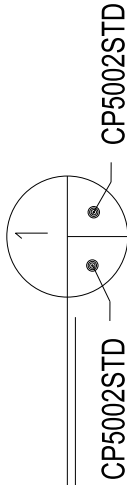
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| PREPARED BY: | MT     |                              |                           |
| CHECKED BY:  | TR     |                              | SCALE:<br>NTS             |
| DATE:        | 3/2012 |                              |                           |
| REV:         |        |                              |                           |
| PREPARED BY: |        | CIVIL<br>DISCIPLINE          |                           |
| CHECKED BY:  |        |                              |                           |
| DATE:        |        |                              |                           |
| REV:         |        |                              |                           |
| PREPARED BY: |        |                              |                           |
| CHECKED BY:  |        |                              |                           |
| DATE:        |        |                              |                           |

EXPANSION JOINT DETAIL



EXPANSION JOINT SECTION

NO SCALE



KEYED NOTES

- 1 POURED POLYURETHANE SEALANT, COLOR TO MATCH CONCRETE. MATERIAL TO MEET FEDERAL SPECIFICATION TT-S-00227E, TYPE 1 OR 2, CLASS A.
- 2 BOND BREAKER TAPE, 4-5 MIL POLYURETHANE.
- 3 1/2" PREMOLDED EXPANSION JOINT FILLER MATERIAL. DEPTH TO EQUAL SLAB OR BAND THICKNESS PLUS 1/2".



|              |            |  |
|--------------|------------|--|
| REV:         |            |  |
| PREPARED BY: | A. ORTIZ   |  |
| CHECKED BY:  | M. ATENCIO |  |
| DATE:        | 5/8/08     |  |
| REV:         | B          |  |
| PREPARED BY: | MT         |  |
| CHECKED BY:  | TR         |  |
| DATE:        | 12/13/11   |  |
| REV:         |            |  |
| PREPARED BY: |            |  |
| CHECKED BY:  |            |  |
| DATE:        | 1/03       |  |

SANDIA NATIONAL LABORATORIES

DRAWING NO.:

WG5003

SCALE:

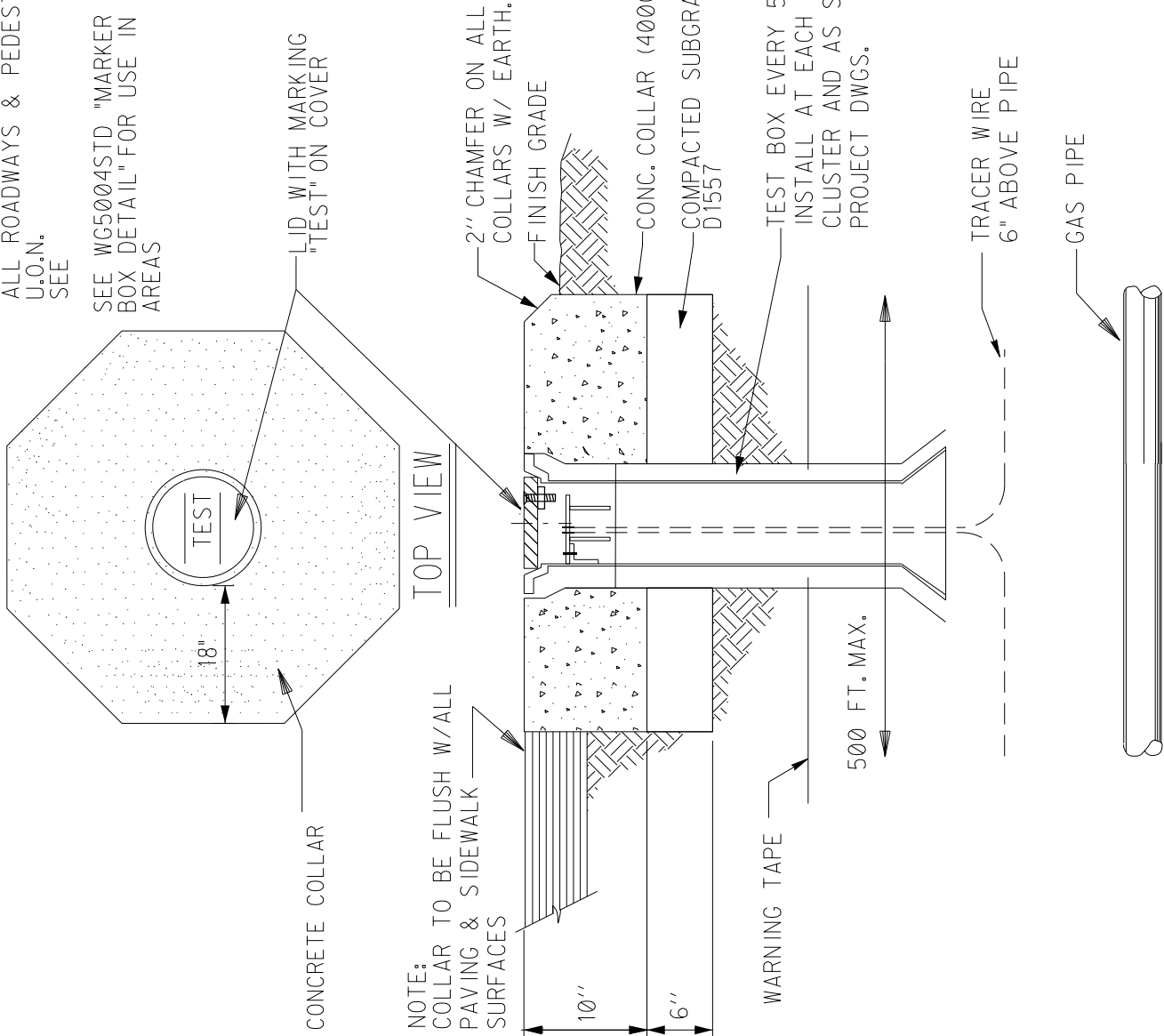
NONE

CIVIL WORKS  
DISCIPLINE

GAS VALVE BOX DETAIL

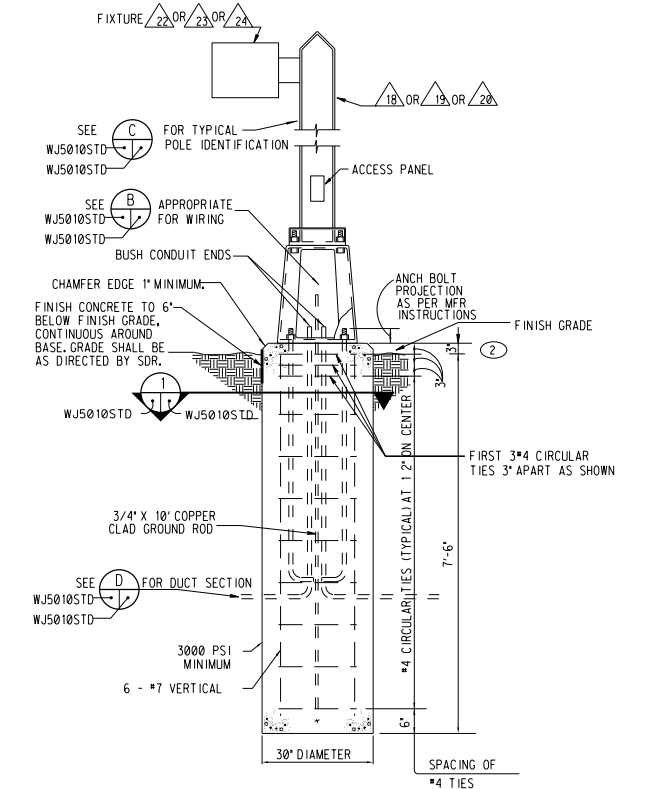
TEST BOX, FOR USE IN TA-I, II IV & V  
ALL ROADWAYS & PEDESTRIAN WALKWAYS  
U.O.N.  
SEE

SEE WG5004STD "MARKER POST W/TEST  
BOX DETAIL" FOR USE IN TA-III & REMOTE  
AREAS

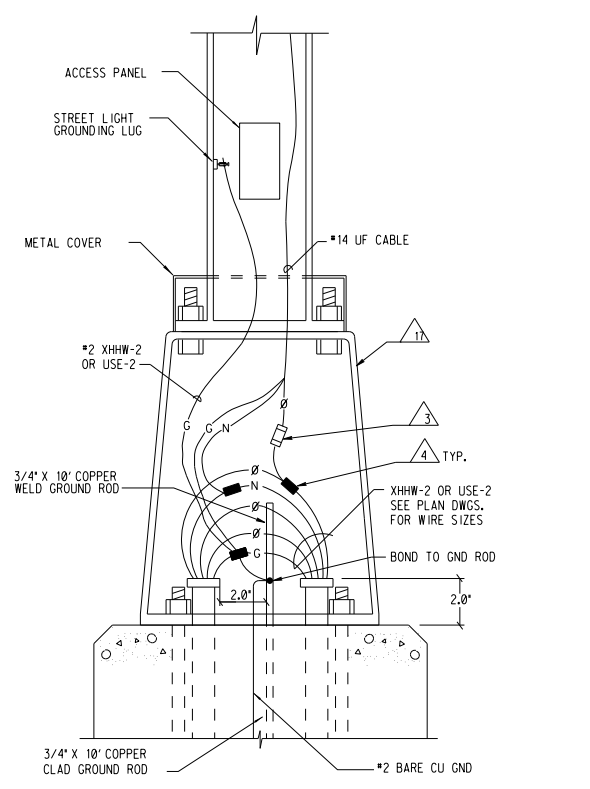


NOTE:  
COLLAR TO BE FLUSH W/ALL  
PAVING & SIDEWALK  
SURFACES

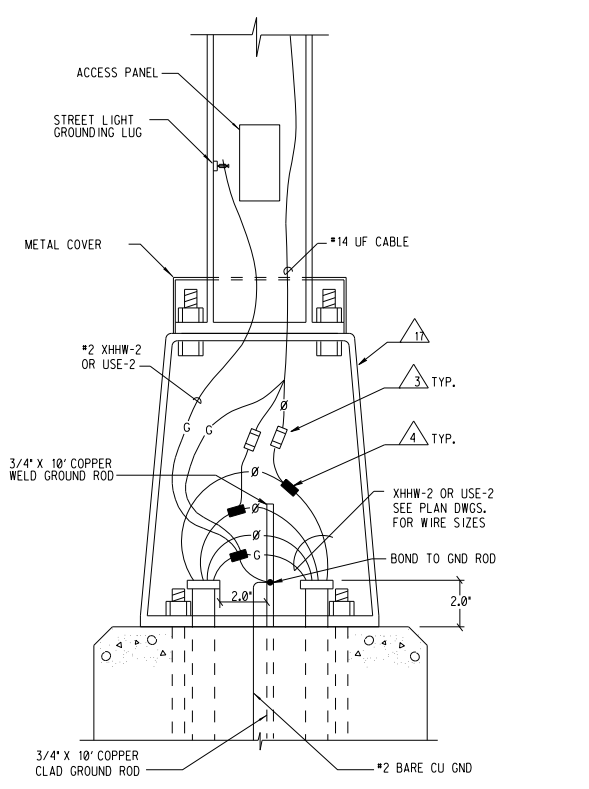
SECTION



**LIGHT POLE DETAIL**  
WJ5010STD  
\* USE IN AREAS WHERE LIGHT POLE IS PROTECTED FROM VEHICULAR TRAFFIC.  
SCALE: NTS



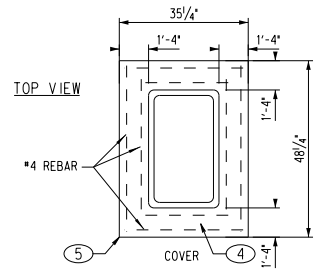
**LINE-TO-NEUTRAL CONNECTION**  
SCALE: NTS



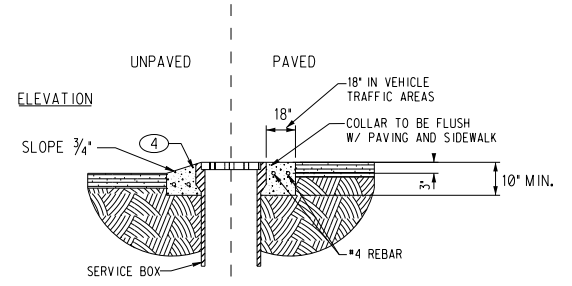
**LINE-TO-LINE CONNECTION**  
SCALE: NTS

- GENERAL NOTES**
- SEE PLANS FOR LOCATION OF POLES.
  - △ DENOTES SCHEDULED EQUIPMENT. SEE DRAWING WJ6001STD.DGN FOR EQUIPMENT SCHEDULE.
  - DESIGN CRITERIA FOR CONCRETE POLE BASES.  
A. WIND: PER ASCE 7-93, BASIC WIND SPEED = 100 MPH  
I=1.0, EXPOSURE C.  
B. MINIMUM ALLOWABLE LATERAL BEARING PRESSURE OF SOIL: PER 1994 UNIFORM BUILDING CODE TABLE 18-1-A, CLASS "5" MATERIALS: 100 PSF PER FOOT WITH 100% INCREASE FOR ISOLATED POLES PER FOOTNOTE "3".
  - INSPECTION OF DRILLED PIERS WILL BE PROVIDED BY THE SDR. THE INSPECTOR WILL VERIFY THAT SOILS ARE ADEQUATE TO PROVIDE THE MINIMUM LATERAL BEARING PRESSURE SHOWN ABOVE. THE INSPECTOR WILL VERIFY PROPER DIAMETER, DEPTH AND CLEANING. CONTRACTOR SHALL COOPERATE WITH INSPECTOR AND OBTAIN INSPECTOR'S APPROVAL BEFORE CONCRETE IS PLACED.
  - SEE STANDARD SPEC. #1 6521 EXTERIOR LIGHTING UNITS.

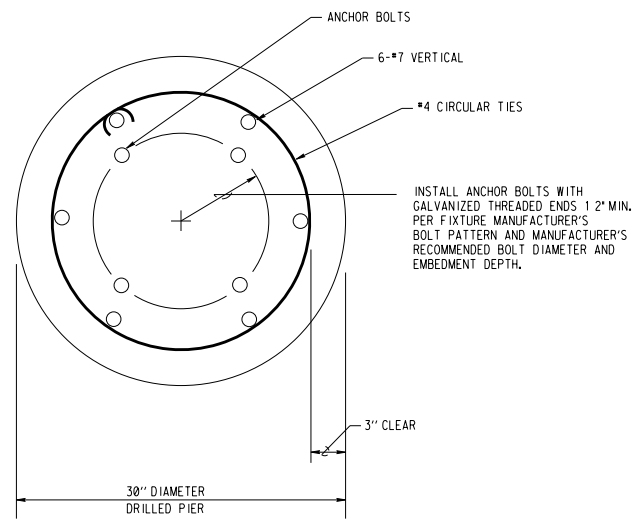
- KEYED NOTES**
- ① EACH POLE/LIGHT IDENTIFICATION IS SHOWN ON PLANS. IDENTIFICATION TO BE PLACED ON STREET OR SIDEWALK SIDE, AS DIRECTED BY SANDIA DELEGATED REPRESENTATIVE.
  - ② IN PARKING AREAS (LOTS), TOP OF CONCRETE FOUNDATION SHALL BE 30" ABOVE FINISHED GRADE.
  - ③ EXTEND GROUND WIRE UP TO TOP OF CONCRETE FOUNDATION. BOND TO GROUND ROD.
  - ④ ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS
  - ⑤ REINFORCEMENT STEEL SHALL BE ASTM A615, GRADE 60, MINIMUM YIELD STRENGTH OF 60,000 PSI.



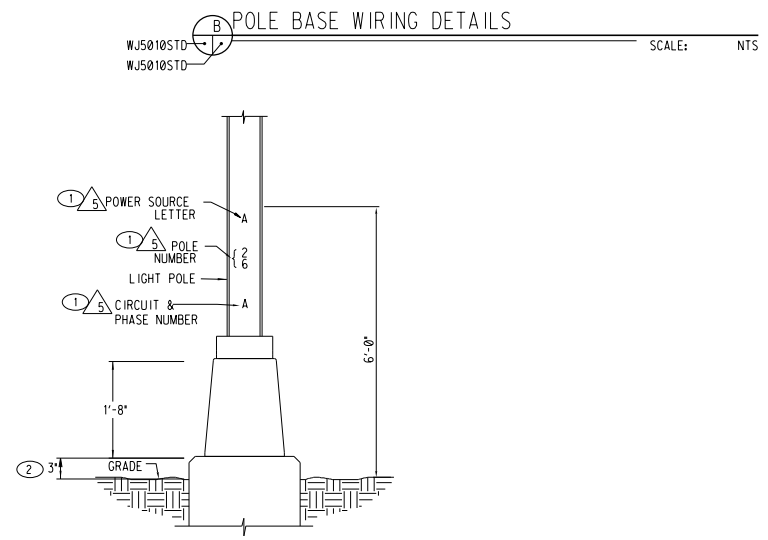
**PULL BOX COLLAR DETAIL**  
SCALE: NTS



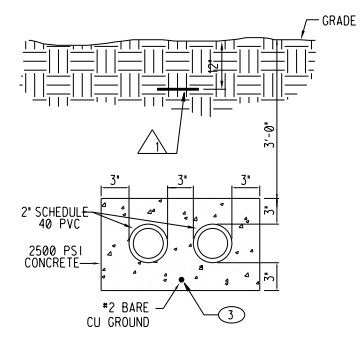
**PULL BOX COLLAR ELEVATION**  
SCALE: NTS



**SECTION**  
WJ5010STD  
SCALE: 1 1/2"=1'-0"



**POLE IDENTIFICATION DETAIL**  
WJ5010STD  
SCALE: NTS



**CONCRETE ENCASED DUCT SECTION**  
WJ5010STD  
SCALE: NTS

|      |     |         |                          |     |         |
|------|-----|---------|--------------------------|-----|---------|
|      | △   | 1/12    | MODIFIED STANDARD        | MT  | TR      |
|      | △   | 1/15/03 | UPDATE                   | EG  | FL      |
|      | △   | 3/06    | EXTERIOR LIGHTING DETAIL | DAC | SJR     |
|      | △   | 6/07    | CORRECTIONS              | PS  | SR SR   |
| P.O. | REV | DATE    | DESCRIPTION              | DWN | CKD APP |

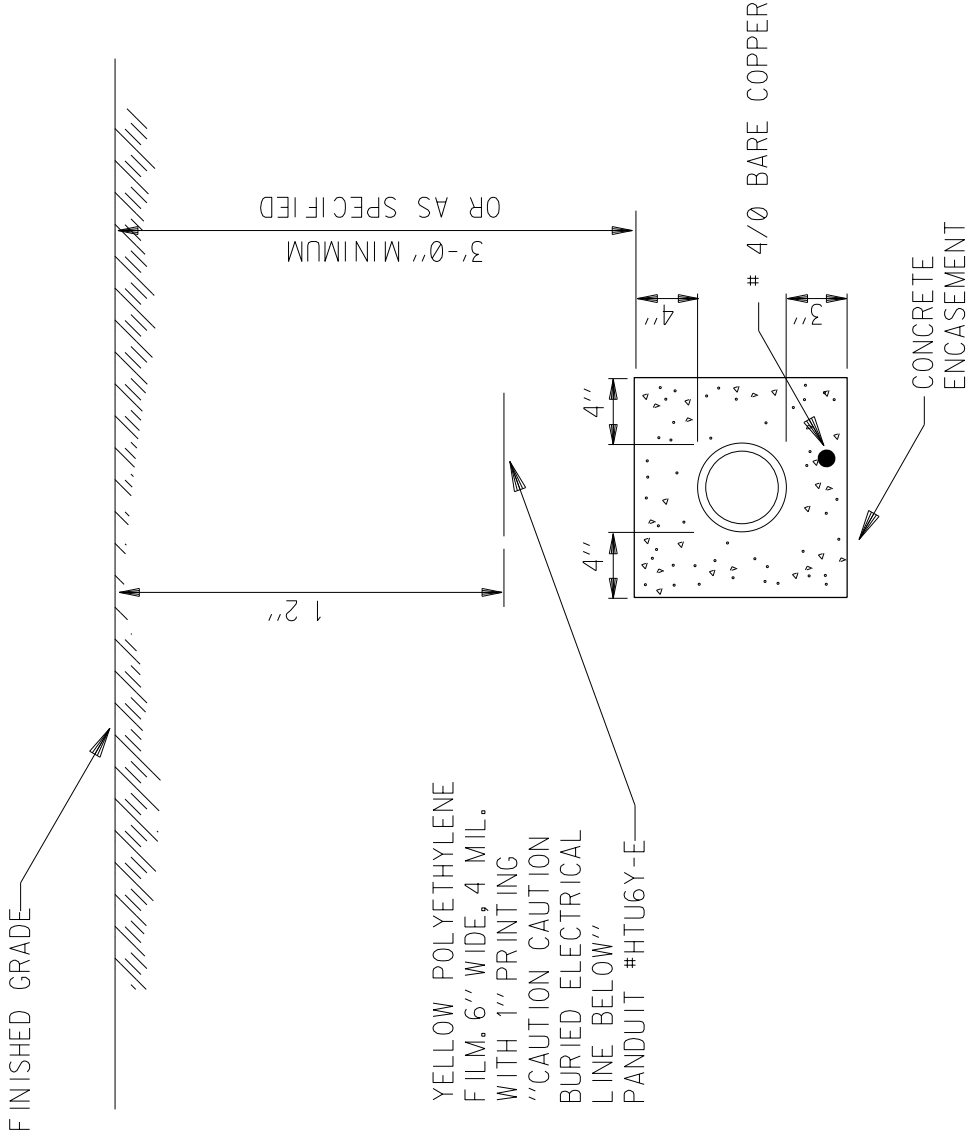
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| U.S. DEPARTMENT OF ENERGY    |  |             |                         |      |         |            |
| NNSA/SANDIA SITE OFFICE      |  |             | ALBUQUERQUE, NEW MEXICO |      |         |            |
| SANDIA NATIONAL LABORATORIES |  |             |                         |      |         |            |
| Exterior Lighting Details    |  |             | P.O.                    |      |         |            |
|                              |  |             | PROJECT NO.             |      |         |            |
|                              |  |             | DRAWN BY                |      | daorans |            |
|                              |  |             | CHECKED BY              |      | sjredd  |            |
|                              |  |             | SNL ENGR                |      |         |            |
| Standards                    |  |             |                         |      |         |            |
| DISC: W                      |  | SUB-DISC: J |                         | STD  | DATE    | 06/30/2001 |
|                              |  | SIZE        | DRAWING NO.             | SEQ. |         |            |
|                              |  | D+          | WJ5010STD.DGN           |      |         |            |

|                             |      |               |
|-----------------------------|------|---------------|
| OLD FILENAME: ES5015STD.DGN | SIZE | DRAWING NO    |
| FILENAME: WJ5010STD.DGN     | D+   | WJ5010STD.DGN |

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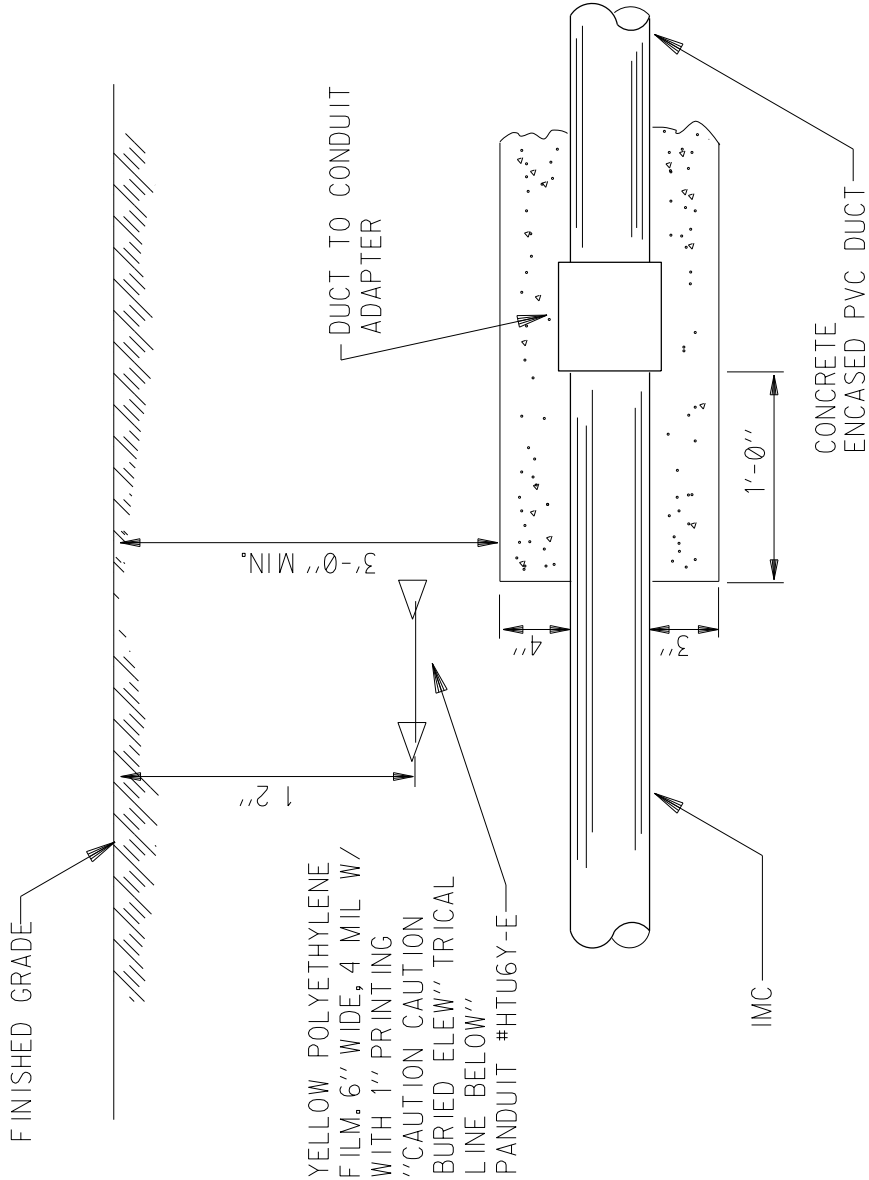


|                     |                                                        |                               |                       |
|---------------------|--------------------------------------------------------|-------------------------------|-----------------------|
| PREPARED BY:<br>SJR | SANDIA NATIONAL LABORATORIES<br>FACILITIES ENGINEERING |                               | DETAIL NO.:<br>WP5004 |
|                     | CHECKED BY:<br>N. CHAVES                               |                               | SCALE:<br>NONE        |
| DATE:<br>01-19-06   | REV:                                                   | TYPICAL CONCRETE ENCASED DUCT |                       |
|                     |                                                        | CIVIL WORKS POWER<br>STANDARD |                       |



NOTE:  
DUCT SHALL BE SIZED AS INDICATED ON DRAWINGS

|                  |                                                        |                                        |                               |
|------------------|--------------------------------------------------------|----------------------------------------|-------------------------------|
| PREPARED BY:     | SANDIA NATIONAL LABORATORIES<br>FACILITIES ENGINEERING |                                        | DETAIL NO.:<br>WP5024         |
| CHECKED BY:      |                                                        |                                        | SCALE:<br>NONE                |
| DATE:<br>6-15-02 | REV:                                                   | DUCT TO CONDUIT<br>INSTALLATION DETAIL | CIVIL WORKS POWER<br>STANDARD |



NOTE:

DUCT SHALL BE SIZED AS INDICATED ON DRAWINGS

PLAN - DETAIL

NO SCALE

A

1

TYPE "C" MANHOLE TOP VIEW

TYPE "E" MANHOLE - TOP VIEW

PLAN-M.H. COVERS FOR TYPE "C" 

TYPICAL CONCRETE BLOCK DETAIL

---

---

NO SCALE

DETAIL

NO SCALE

B  
1

TOP

FRONT

### DETAIL

CROSS SECTION

CROSS SECTION

SECTION 5 BOTTOM MAT SECTION 7

|                                            |          |
|--------------------------------------------|----------|
| STANDARD CAST IRON M.H.<br>FRAME AND COVER |          |
| COVER WEIGHT                               | 180 LBS. |
| FRAME WEIGHT                               | 145 LBS. |
| TOTAL WEIGHT                               | 325 LBS. |

PLAN-MANHOLE FRAME AND COVER

SECTION \_\_\_\_\_ 

CROSS SECTION

CROSS SECTION

|                                            |          |
|--------------------------------------------|----------|
| STANDARD CAST IRON M.H.<br>FRAME AND COVER |          |
| COVER WEIGHT                               | 180 LBS. |
| FRAME WEIGHT                               | 145 LBS. |
| TOTAL WEIGHT                               | 325 LBS. |

PLAN-MANHOLE FRAME AND COVER

SECTION \_\_\_\_\_ 

## GENERAL NOTES

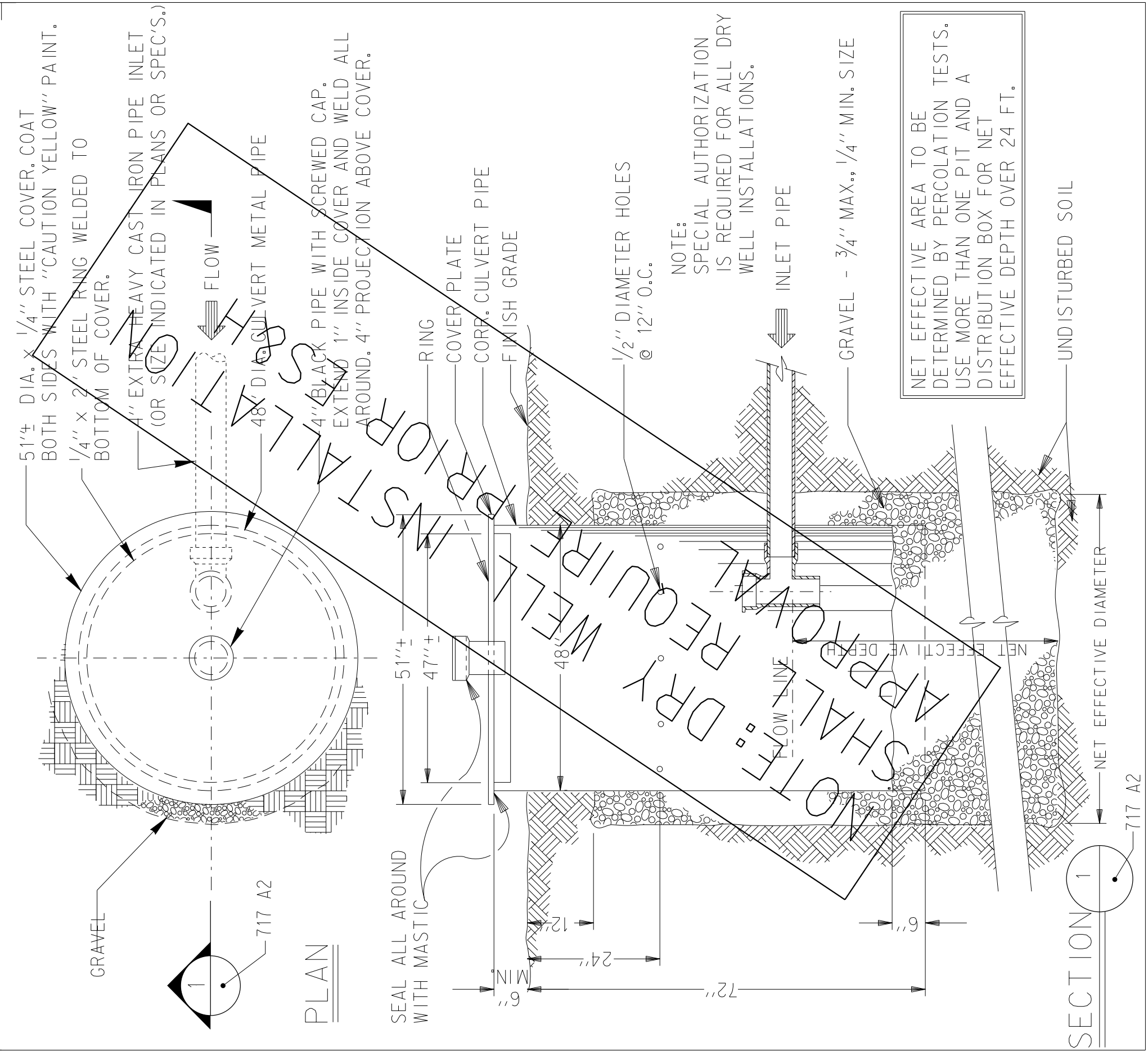
1. USE TYPE "C" M.H. FOR DEPTHS OF LESS THAN 6 FT. MEASURED FROM LOWEST INVERT TO RIM. CONTRACTOR HAS OPTION TO CONSTRUCT TYPE "C" M.H. OR TYPE "E" M.H. FOR DEPTHS OF 6 FT. OR MORE. MANHOLES GREATER THAN 18 FT. IN DEPTH SHALL BE OF PRECAST CONCRETE SECTIONS ONLY. MANHOLE DESIGNS SHOWN APPLICABLE TO 4, AND 6, FT. I.D. ONLY.
2. MANHOLE OPENINGS TO BE POSITIONED OVER THE UPSTREAM SIDE OF MAIN LINE.
3. USE NON-SHRINK GROUT FOR ALL JOINTS, FILLETS AND PENETRATIONS.
4. ALL BACKFILL AROUND M.H. AND EARTH SUBGRADE UPON WHICH CONCRETE IS SET SHALL BE FIRM AND SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DENSITY. SEE SANDIA STANDARD SPECIFICATION SECTIONS 02222.
5. ALL BAR REINFORCEMENT SHALL BE DEFORMED AND CONFORM TO ASTM A 615, GRADE 40. BENDING OF STEEL WILL CONFORM TO REQUIREMENTS OF ACI 318. THE MINIMUM STRENGTH OF CAST-IN-PLACE CONCRETE SHALL BE 3000 PSI AT 28 DAYS AND THE TOP SURFACES SHALL BE FLOATED WITH A WOOD FLOAT TO A TRUE AND UNIFORM PLANE WITH NO COURSE AGGREGATE VISIBLE. CAST-IN-PLACE CONCRETE TO CONFORM WITH SANDIA STANDARD SPECIFICATION SECTION 03300. ALL PRECAST CONCRETE SHALL BE A MINIMUM OF 4000 PSI COMPRESSIVE STRENGTH.
6. CONCRETE MASONRY UNITS FOR CONSTRUCTION OF MANHOLES TO BE IN ACCORDANCE WITH ASTM C 139 AND MANHOLE BRICK (2 1/4" X 3 9/16" X 3 9/16") SHALL CONFORM TO MEET FOR DIMENSIONS, TOLERANCES, AND REQUIREMENTS OF ASTM C 32. GROUT USED SHALL BE TYPE "N" MORTAR AND DEVELOP A COMPRESSIVE STRENGTH OF NOT LESS THAN 2000 PSI AT 28 DAYS AS APPLICABLE TO SANDIA STANDARD SPECIFICATION 44.
7. MANHOLE COVERS SHALL BE OF CAST IRON CONSTRUCTION CONFORMING TO ASTM A 48-64, SEE SANDIA STANDARD SPECIFICATION 15E.

## KEYED NOTES

- (1) MANHOLE MAY BE CONSTRUCTED OF CONCRETE BLOCK, OR PRECAST REINFORCED CONCRETE. IF CONCRETE BLOCK IS USED, PLASTER INSIDE AND OUT WITH 1/2" MORTAR.
- (2) MANHOLE STEPS TO BE THE "PRESS-FIT" TYPE AND INSTALLED INSIDE THE STRUCTURE UNTIL SITE DRILLED HOLES. STEP TO BE DRIVEN TO IT'S FULL DEPTH OF INSERTION SO AS TO RESIST PULLOUT FORCES OF UP TO 1500 LBS. MINIMUM. STEP TO BE OF #4-GRADE 60 REBAR EMBEDDED WITH INJECTION MOLDED COPOLYMER POLYPROPYLENE PLASTIC PER ASTM D 2746 TYPE II, GRADE 16906. MANHOLE STEP TO CONFORM WITH ASTM C 478 AS MANUFACTURED BY "M.A. INDUSTRIES, INC." OR APPROVED EQUAL. SEE STANDARD SPECIFICATION SECTION 02725.
- (3) USE MAXIMUM OF 4 COURSES GRADE "MS" BRICK ON UNPAVED STREET FOR FUTURE ADJUSTMENT OF MANHOLE FRAME TO PAVEMENT GRADE. PLASTER INSIDE WITH 1/2" MORTAR.
- (4) APPROVED WATER STOP TO BE COMPATIBLE WITH TYPE OF PIPE.
- (5) 6" GROUT FILLET ON UPPER HALF OF PIPE AND AROUND BASE.
- (6) INVERT ELEVATIONS OF STUBS OR LATERALS AS SHOWN ON PLANS.
- (7) MANHOLE BASE TO BE POURED IN PLACE USING #4 REBARS AT 6" O.C. EACH WAY FOR MANHOLE DEPTHS OF 16 FT. OR GREATER. USE #4 REBARS AT 12" O.C. EACH WAY FOR MANHOLE DEPTHS OF LESS THAN 16 FT. COMPACT NATIVE MATERIAL TO 95% MODIFIED PROCTOR-SEE GENERAL NOTE 4.
- (8) PRECAST REINFORCED CONCRETE ECCENTRIC CONE AND/OR BARREL SECTION IF REQUIRED, THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL. SEE DESCRIPTIVE SUBMITTAL LIST FORM SF 6310-AD LATEST REVISION.
- (9) END OF PLASTER FOR CONCRETE BLOCK OR BRICK MANHOLE WITH PRECAST REINFORCED CONCRETE CONE.
- (10) 1" DIA. PIPE SLEEVE PRE-SET VERTICALLY THROUGH COVER.
- (11) CONCRETE FILL, 3,000 PSI.
- (12) CONCRETE PIPE SUPPORTS SHALL EXTEND OUTSIDE OF M.H. TO BELL OF FIRST JOINT AND SHALL GRADLE PIPE TO SPRING LINE, N.A. FOR FLEXABLE PIPE.
- (13) 6" COMPACTED NATIVE MATERIAL. COMPACT TO 95% MODIFIED PROCTOR, SEE GENERAL NOTE 4.

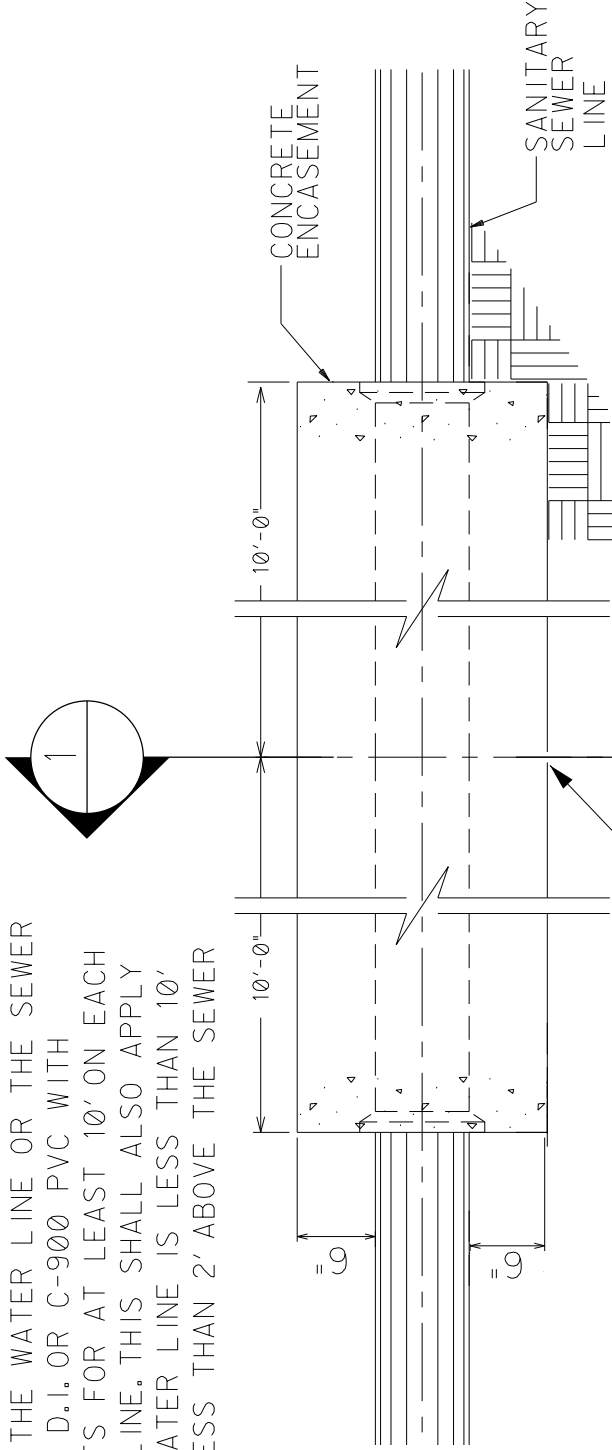
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|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------|------------------------|--------------|--|-------------------------|--|---------------|-----|------------|-----|
|                                                                                       |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
| P.O.                                                                                  |  | 6/07 | MODS TO CROSS SECTIONS |              |  |                         |  |               | PS  | TR         |     |
| PROJECT NO.                                                                           | REV                                                                                   | DATE | DESCRIPTION            |              |  |                         |  |               | DWN | CKD        | APP |
| U.S. DEPARTMENT OF ENERGY                                                             |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
| NNSA/SANDIA SITE OFFICE                                                               |                                                                                       |      |                        |              |  | ALBUQUERQUE, NEW MEXICO |  |               |     |            |     |
| SANDIA NATIONAL LABORATORIES                                                          |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
|  |                                                                                       |      |                        |              |  |                         |  |               |     |            |     |
| Manhole Types "C" And "E"                                                             |                                                                                       |      |                        |              |  |                         |  | P.O.          |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  | PROJECT NO.   |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  | DRAWN BY      |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  | CHECKED BY    |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  | SNL ENGR      |     |            |     |
| DISCP: W                                                                              |                                                                                       |      |                        | SUB-DISCP: R |  |                         |  | STD           |     | DATE       |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  |               |     | 10/23/1985 |     |
|                                                                                       |                                                                                       |      |                        |              |  | SIZE                    |  | DRAWING NO    |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  | D+                      |  | WR5001STD.DGN |     |            |     |
|                                                                                       |                                                                                       |      |                        |              |  |                         |  | SEQ.          |     |            |     |

|              |       |                              |  |  |  |              |        |
|--------------|-------|------------------------------|--|--|--|--------------|--------|
| REV:         | 2     | SANDIA NATIONAL LABORATORIES |  |  |  | DRAWING NO.: | WR5003 |
| PREPARED BY: | MT    |                              |  |  |  |              |        |
| CHECKED BY:  | TR    |                              |  |  |  | SCALE:       |        |
| DATE:        | 12/11 |                              |  |  |  | NONE         |        |
| REV:         | 1     | DRY WELL DETAIL              |  |  |  |              |        |
| PREPARED BY: | PS    |                              |  |  |  |              |        |
| CHECKED BY:  | TR    |                              |  |  |  |              |        |
| DATE:        | 6/07  |                              |  |  |  |              |        |
| REV:         | 0     | CIVIL DISCIPLINE             |  |  |  |              |        |
| PREPARED BY: | ESM   |                              |  |  |  |              |        |
| CHECKED BY:  | CWB   |                              |  |  |  |              |        |
| DATE:        | 6/01  |                              |  |  |  |              |        |



|              |      |                              |                               |
|--------------|------|------------------------------|-------------------------------|
| REV:         |      | SANDIA NATIONAL LABORATORIES | DRAWING NO.:<br><b>WS1001</b> |
| PREPARED BY: |      |                              |                               |
| CHECKED BY:  |      |                              |                               |
| DATE:        |      |                              |                               |
| REV:         | 1    | SEWER ENCASEMENT DETAIL      | SCALE:<br><br>NONE            |
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| CHECKED BY:  | TR   |                              |                               |
| DATE:        | 6/07 |                              |                               |
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| DATE:        | 6/01 |                              |                               |

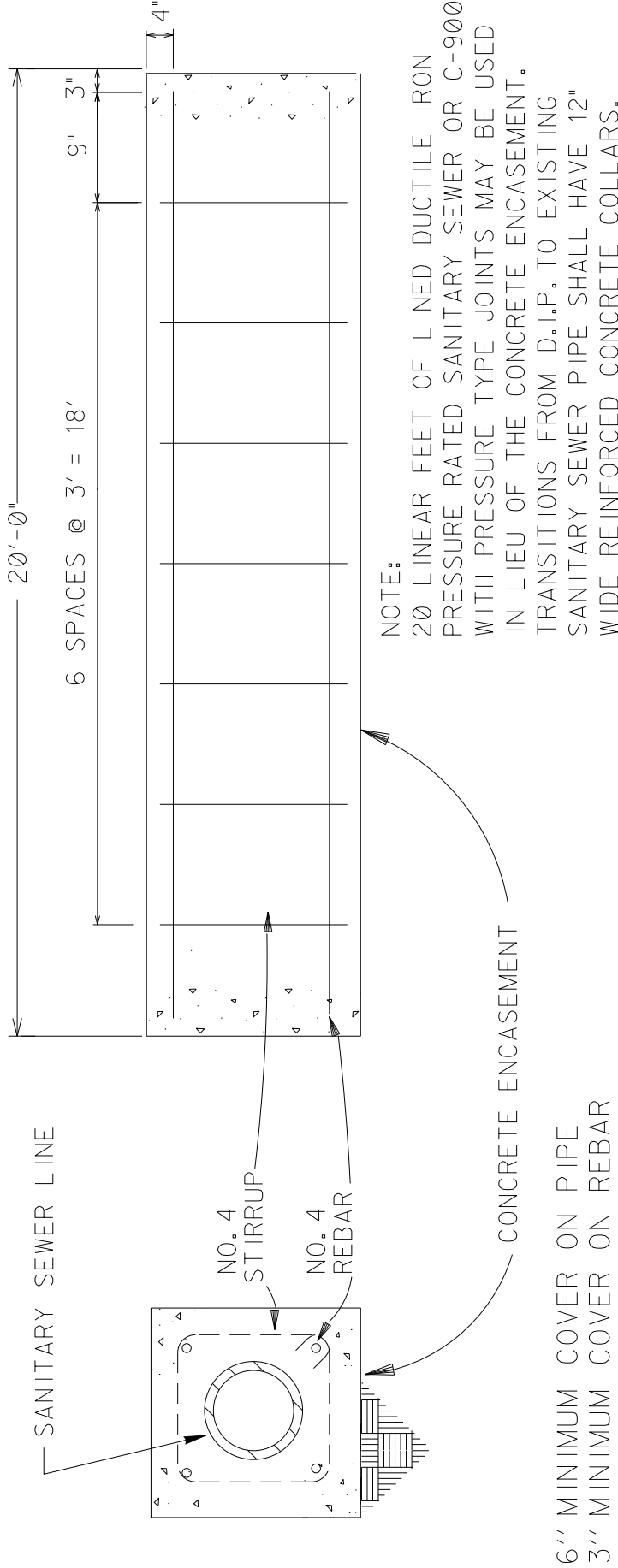
GENERAL NOTE: ENCASEMENT OR SANITARY IS REQUIRED WHEN WATER LINE PASSES BENEATH OR LESS THAN 18" ABOVE THE SANITARY SEWER LINE. SEWER LINE SHALL BE ENCASED AS SHOWN FOR AT LEAST 10' ON EACH SIDE OF THE WATER LINE OR THE SEWER LINE SHALL BE LINED D.I.P. OR C-900 PVC WITH PRESSURE TYPE JOINTS FOR AT LEAST 10' ON EACH SIDE OF THE WATER LINE. THIS SHALL ALSO APPLY WHERE A PARALLEL WATER LINE IS LESS THAN 10' HORIZONTALLY AND LESS THAN 2' ABOVE THE SEWER LINE.



NOTE:  
THIS LAYOUT DEFINES ONLY A CASE WHERE INTERSECTION BETWEEN WATER AND SANITARY SEWER IS 90°.

CENTERLINE OF WATER MAIN

PLAN - CONCRETE ENCASEMENT

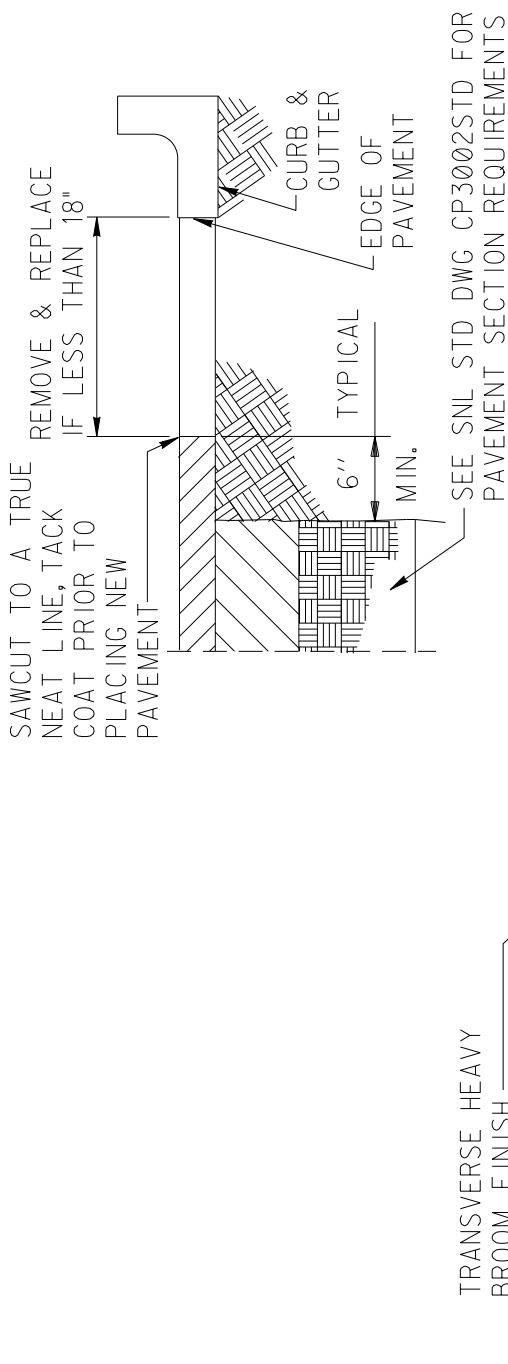


NOTE:  
20 LINEAR FEET OF LINED DUCTILE IRON PRESSURE RATED SANITARY SEWER OR C-900 WITH PRESSURE TYPE JOINTS MAY BE USED IN LIEU OF THE CONCRETE ENCASEMENT. TRANSITIONS FROM D.I.P. TO EXISTING SANITARY SEWER PIPE SHALL HAVE 12" WIDE REINFORCED CONCRETE COLLARS. WITH 6" MIN. CONC. ENCASEMENT OF THE PIPE JOINTS.

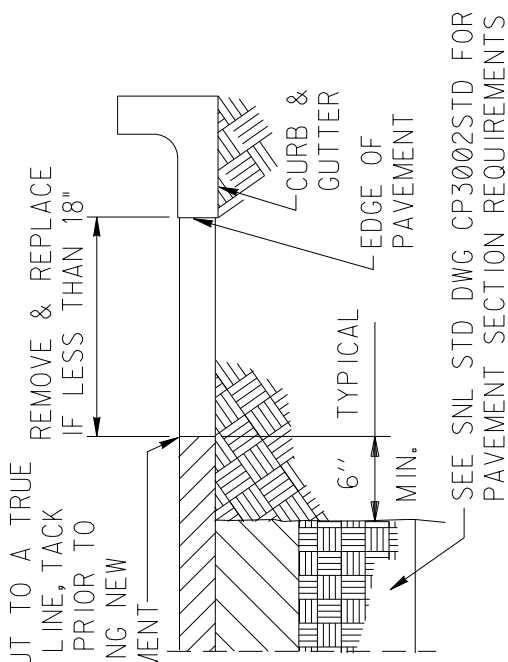
SECTION 1

REINFORCEMENT LAYOUT

|              |      |                              |  |              |                  |
|--------------|------|------------------------------|--|--------------|------------------|
| REV:         | 2    | SANDIA NATIONAL LABORATORIES |  | DRAWING NO.: | WU3001           |
| PREPARED BY: | PS   |                              |  |              |                  |
| CHECKED BY:  | TR   |                              |  | SCALE:       | NONE             |
| DATE:        | 8/08 |                              |  |              |                  |
| REV:         | 1    | UTILITY CROSSING AT PAVEMENT |  |              | CIVIL DISCIPLINE |
| PREPARED BY: | PS   |                              |  |              |                  |
| CHECKED BY:  | TR   |                              |  |              |                  |
| DATE:        | 6/07 |                              |  |              |                  |
| REV:         | 3    |                              |  |              |                  |
| PREPARED BY: | MT   |                              |  |              |                  |
| CHECKED BY:  | TR   |                              |  |              |                  |
| DATE:        | 1/12 |                              |  |              |                  |



B. ASPHALT PAVEMENTS



A. CONCRETE PAVEMENTS

GENERAL NOTES:

1. COMPACTION AS DETERMINED BY ASTM D1557 MAX. DENSITY.
2. TRENCH CUT WIDTHS SHALL BE THE MINIMUM REQUIRED FOR UTILITY INSTALLATION, ECONOMICAL BACKFILL, COMPACTION AND APPLICABLE SAFETY REQUIREMENTS.
3. CONCRETE JOINTS TO BE TOOLED AND SEALED IN ACCORDANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS.
4. TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SNL STANDARD SPEC. 02200.

PREPARED BY:

MT

CHECKED BY:

TR

DATE:

12/12/11

REV:

B

# SANDIA NATIONAL LABORATORIES FACILITIES ENGINEERING

DRAWING NO.:

WU3002

SCALE:

NONE

## DROP MANHOLE DETAIL

CIVIL  
STDST.DGN

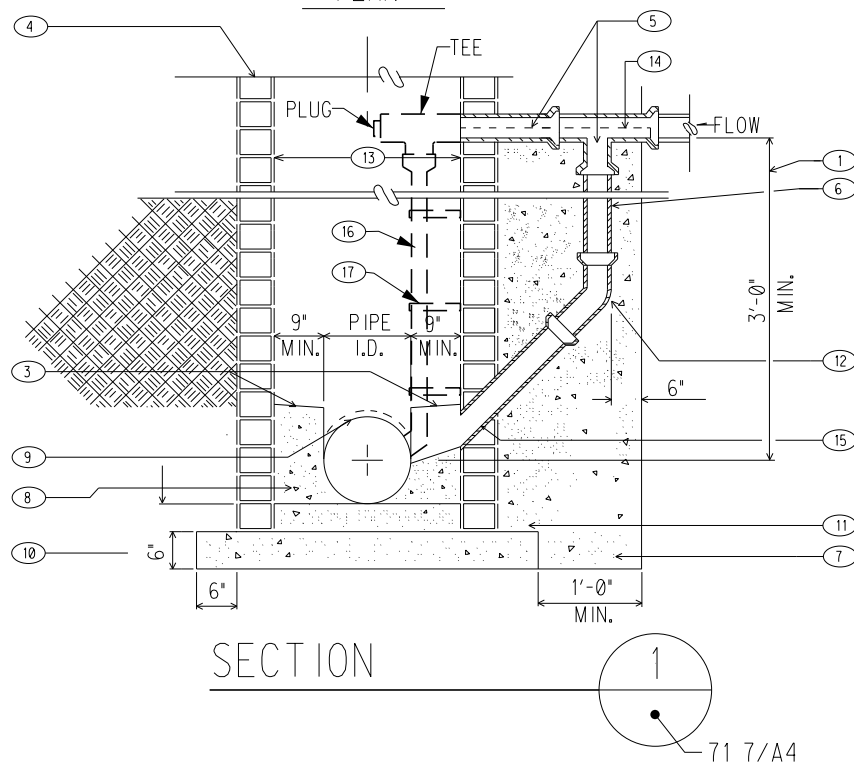
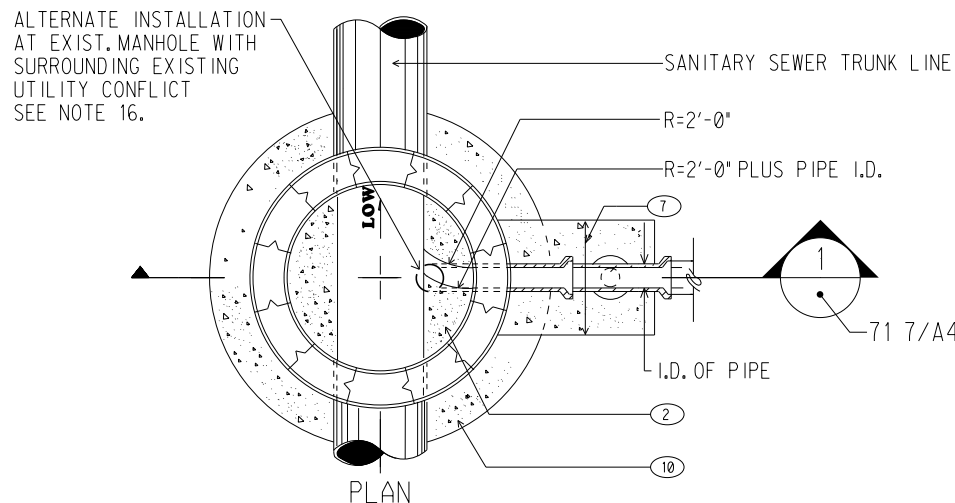
OLD FILE NAME: 101717/A4

### GENERAL NOTES:

1. EXCAVATION AND BACKFILLING SHALL CONFORM TO SECTIONS 02200 AND 02222 OF THE SANDIA STANDARD SPECIFICATIONS.
2. SANITARY SEWER WORK SHALL CONFORM TO SECTIONS 02725 AND 02730 OF THE SANDIA STANDARD SPECIFICATIONS.
3. CONCRETE WORK SHALL CONFORM TO SECTION 03300 OF THE SANDIA STANDARD SPECIFICATIONS.

### KEYED NOTES:

- 1 VERTICAL DROP.
- 2 FORM PIPE INVERT IN SHELF.
- 3 SLOPE SURFACE AT 1" PER FOOT
- 4 MANHOLE TYPE FOR UPPER PORTION SHALL BE AS SPECIFIED ON PLANS.
- 5 USE D.I. OR P.V.C. THROUGHOUT DROP.
- 6 TYPICAL BELL AND SPIGOT.
- 7 CONCRETE SUPPORT WIDTH EQUALS PIPE O.D. PLUS 6" MINIMUM EACH SIDE.
- 8 CONCRETE FILL TO BE 3000 P.S.I.
- 9 SANITARY SEWER TRUNK LINE BEYOND.
- 10 REINFORCED CONCRETE BASE. No. 4 REBAR, 6" O.C. BOTH WAYS.
- 11 FOR NEW DROP ON EXISTING MANHOLE, CONSTRUCT REINFORCED 3'-0" x 3'-0" CONCRETE BASE BEFORE CONSTRUCTING DROP SUPPORT.
- 12 LONG RADIUS (45°) BEND.
- 13 I.D. OF NEW OR EXISTING MANHOLE AS SPECIFIED ON PLANS. 4' MINIMUM I.D.
- 14 TOP OF CONCRETE SUPPORT BEYOND.
- 15 4" ABOVE SPRING LINE OR AS INDICATED ON PLANS.
- 16 CONSTRUCT DROP CONVERSION WITHIN MANHOLE BARREL AS SHOWN. WHEN SITE CONDITION SUCH AS DEEP MANHOLE WITH NUMEROUS UNDERGROUND UTILITIES CREATING PROHIBITIVE EXCAVATION REQUIREMENTS & CONDITIONS.
- 17 SECURE DROP CONVERSION TO MANHOLE WITH STAINLESS STEEL BRACKETS & MISH HARDWARE.

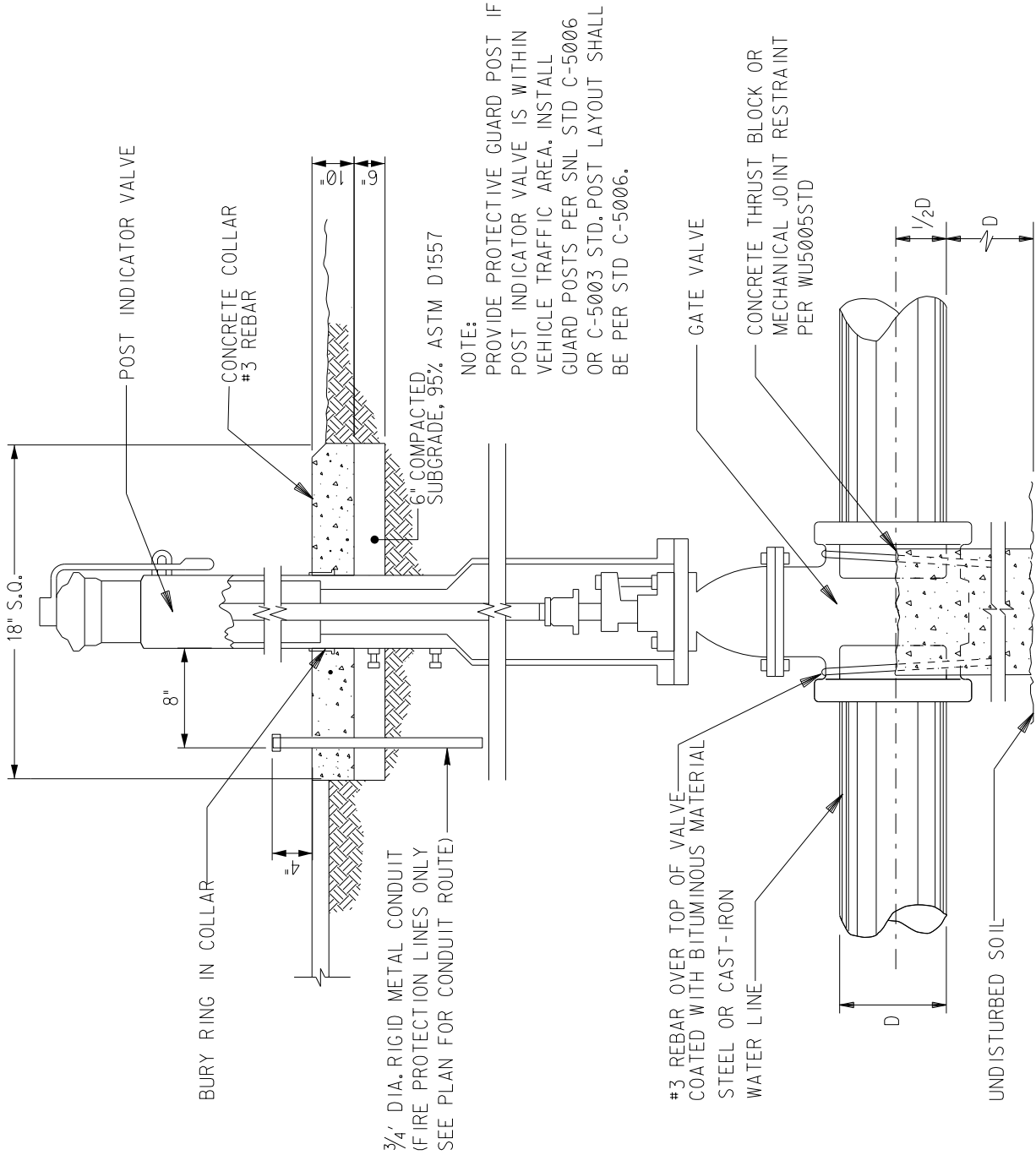


|              |     |                                              |                               |
|--------------|-----|----------------------------------------------|-------------------------------|
| REV:         |     | SANDIA NATIONAL LABORATORIES                 | DRAWING NO.:<br><b>WW3002</b> |
| PREPARED BY: |     |                                              |                               |
| CHECKED BY:  |     |                                              |                               |
| DATE:        |     |                                              |                               |
| REV:         | B   |                                              |                               |
| PREPARED BY: | PS  | VALVE & POST INDICATOR<br>STEEL OR CAST-IRON | SCALE:<br><br>NONE            |
| CHECKED BY:  | JMM |                                              |                               |
| DATE:        | 308 |                                              |                               |
| REV:         | A   |                                              |                               |
| PREPARED BY: | ESM |                                              |                               |
| CHECKED BY:  | DMR | CIVIL<br>DISCIPLINE                          |                               |
| DATE:        | 702 |                                              |                               |

PAINT NOTES:

ABOVE GRADE: TWO COATS OF SUITABLE ALKYD ENAMEL PAINT, COATING SHALL BE SHERWIN-WILLIAMS COMPANY KEM AQUA 400 WATERBORNE ENAMEL OR APPROVED EQUAL. INDICATOR POST SHALL BE FIRE PROTECTION RED (S-W; CONTAINER RED) FOR FIRE SPRINKLER LINES, OR TRAFFIC YELLOW (S-W; FEDERAL YELLOW) FOR DISTRIBUTION SYSTEM INDICATOR VALVES.

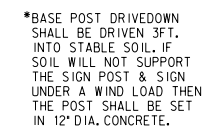
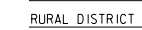
BELOW GRADE: TWO COATS OF ASPHALT VARNISH



1. ALL TRAFFIC CONTROL SIGNS SHALL BE INBEDDED A MIN. OF 2'-6".
2. SIGN PLACEMENT MUST COMPLY WITH MUTCD, LATEST VERSION.
3. FOR TOTAL SIGN AREA GREATER THAN 8 SQ. FT. INSTALL ADDITIONAL POST IN ACCORDANCE WITH MUTCD LATEST EDITION.
4. SEE SNL SIGN STANDARDS FOR SIGN TYPES, OTHER THAN MUTCD REGULATORY OR WARNING SIGNS.



BUSINESS DISTRICT  
WITHOUT SIDEWALK



BUSINESS DISTRICT  
WITH SIDEWALK

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| P.O.                                                                                                                         | REV           | DATE | DESCRIPTION              | DWN         | CKD  | APP        |
|------------------------------------------------------------------------------------------------------------------------------|---------------|------|--------------------------|-------------|------|------------|
| U.S. DEPARTMENT OF ENERGY<br>NNSA/SANDIA SITE OFFICE ALBUQUERQUE, NEW MEXICO                                                 |               |      |                          |             |      |            |
| <div>SANDIA NATIONAL LABORATORIES</div> |               |      |                          |             |      |            |
| Sign Location Standards                                                                                                      |               |      |                          | P.O.        |      |            |
|                                                                                                                              |               |      |                          | PROJECT NO. |      |            |
|                                                                                                                              |               |      |                          | DRAWN BY    |      |            |
|                                                                                                                              |               |      |                          | CHECKED BY  |      |            |
|                                                                                                                              |               |      |                          | SNL ENGR    |      |            |
| DISCIP: A                                                                                                                    | SUB-DISCIP: E |      |                          | STD         | DATE | 06/30/2001 |
| SIZE D+                                                                                                                      |               |      | DRAWING NO AE5030STD.DGN |             |      | SEQ.       |

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| PREPARED BY: |      |
| CHECKED BY:  |      |
| DATE:        |      |
| REV:         |      |
| PREPARED BY: |      |
| CHECKED BY:  |      |
| DATE:        |      |
| REV:         | 1    |
| PREPARED BY: | PES  |
| CHECKED BY:  | MJB  |
| DATE:        | 3/07 |

SANDIA NATIONAL LABORATORIES

SIGN MOUNTING AND POST  
INSTALLATION FOR CIVIL SIGNS

OLD FILE NAME:

DRAWING NO.:

AE5042

SCALE:

NONE

ARCHITECTURAL  
DISCIPLINE

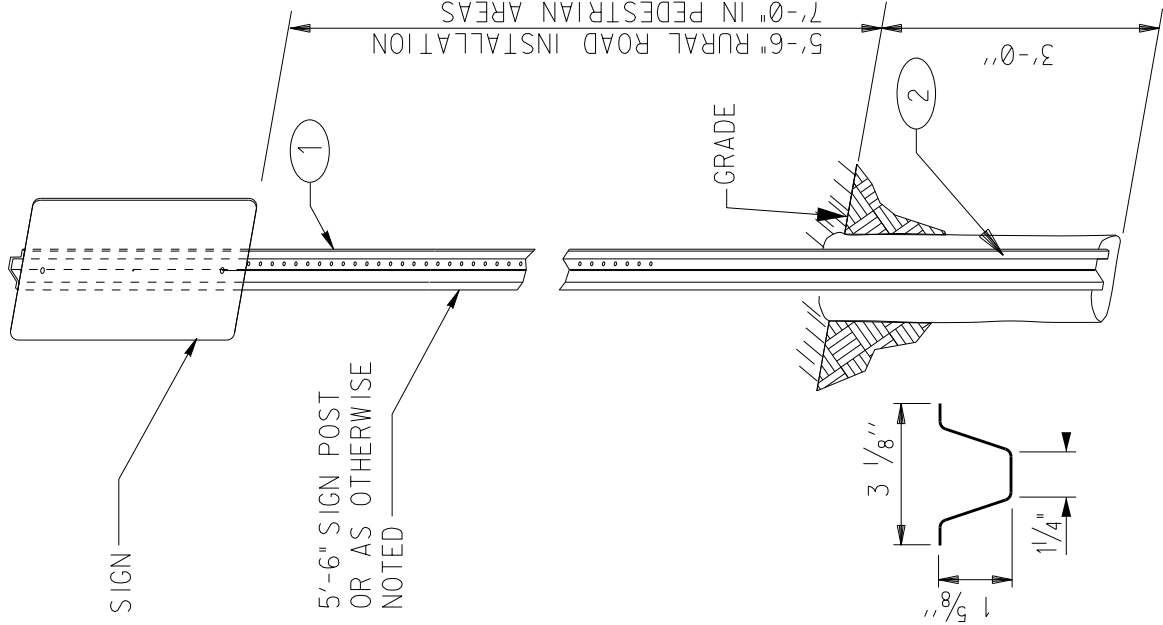
KEYED NOTES

- 1
- SIGN POST ASSEMBLY INCLUDES SIGN POST. POSTS ARE PRODUCED FROM HIGH STRENGTH RAIL STEEL CONFORMING TO ASTM-A499-81, GRADE 60. GREEN BAKED ENAMEL FINISH, 7/16" HOLES ON 1 INCH CENTERS WT. 3 LBS. PER FT. X 10 FT. LONG POST COMPLETE, "EZE-ERECT" OR EQUAL.
- 2
- POST SHALL BE DRIVEN 3 FT. INTO STABLE SOIL. IF SOIL WILL NOT SUPPORT THE SIGN POST AND SIGN UNDER A WIND LOAD THEN THE POST SHALL BE SET IN CONCRETE.

GENERAL NOTES

1.
- FOR ANY SIGN OR COMBINATION OF SIGNS LARGER THAN (8) SQ. FT. OF AREA, ORDER "EZE-ERECT" 4LBS. PER FT. X 10 FT. LONG POST COMPLETE OR EQUAL.
2.
- SEE SNL SIGN STANDARD FOR SIGN TYPES AND ORDERING.

NOTE:  
SIGN LOCATION SHALL BE IN  
ACCORDANCE WITH MUTCD, LATEST  
EDITION FOR ALL ROADWAYS.



POST & SIGN

OLD FILE NAME:

|              |      |
|--------------|------|
| REV:         |      |
| PREPARED BY: |      |
| CHECKED BY:  |      |
| DATE:        |      |
| REV:         |      |
| PREPARED BY: |      |
| CHECKED BY:  |      |
| DATE:        |      |
| REV:         | 0    |
| PREPARED BY: | PES  |
| CHECKED BY:  | MJB  |
| DATE:        | 3/07 |

SANDIA NATIONAL LABORATORIES

DRAWING NO.:

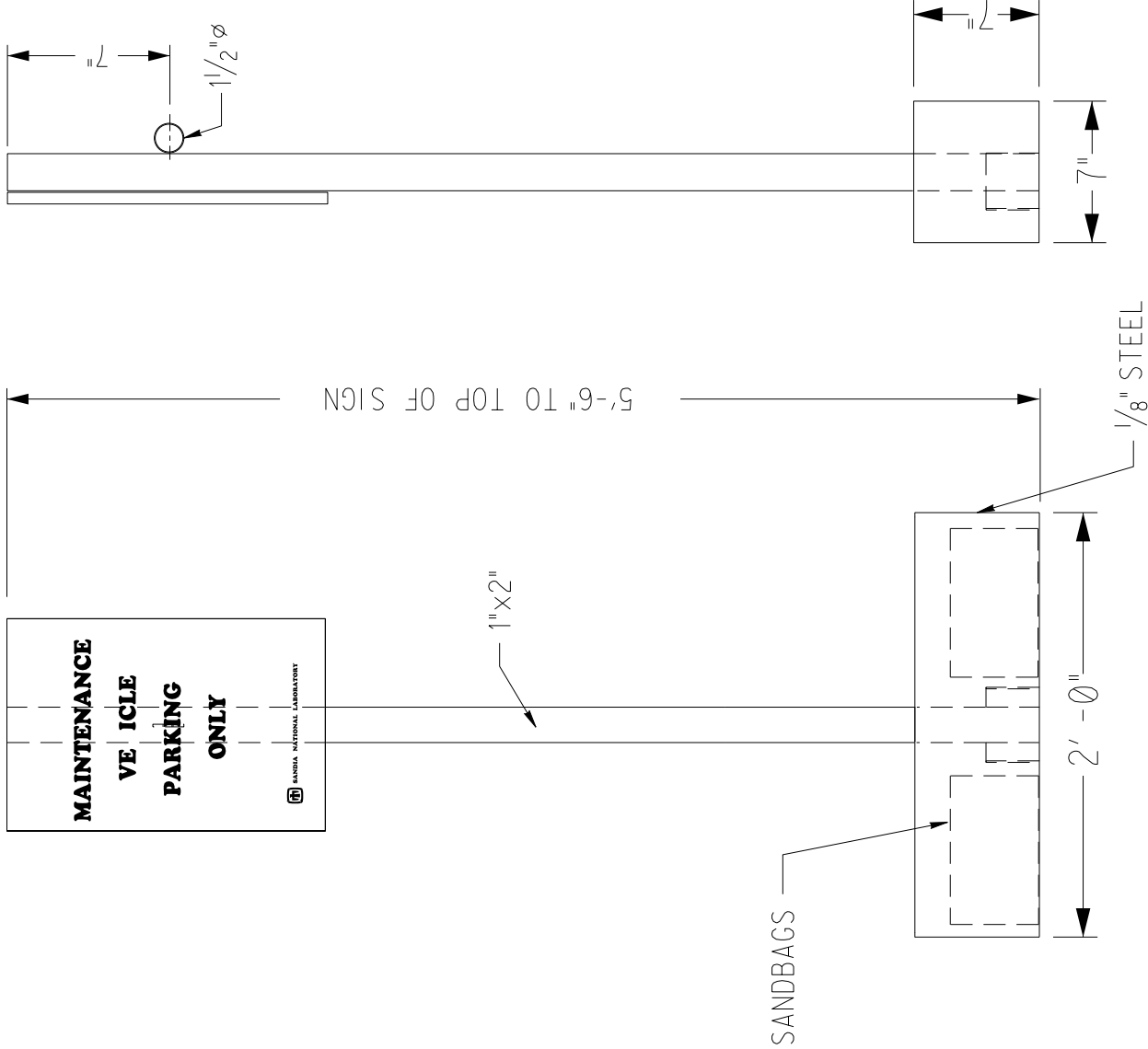
AE5043

SCALE:

NONE

TEMPORARY  
FREE STANDINGSIGN MOUNT

ARCHITECTURAL  
DISCIPLINE

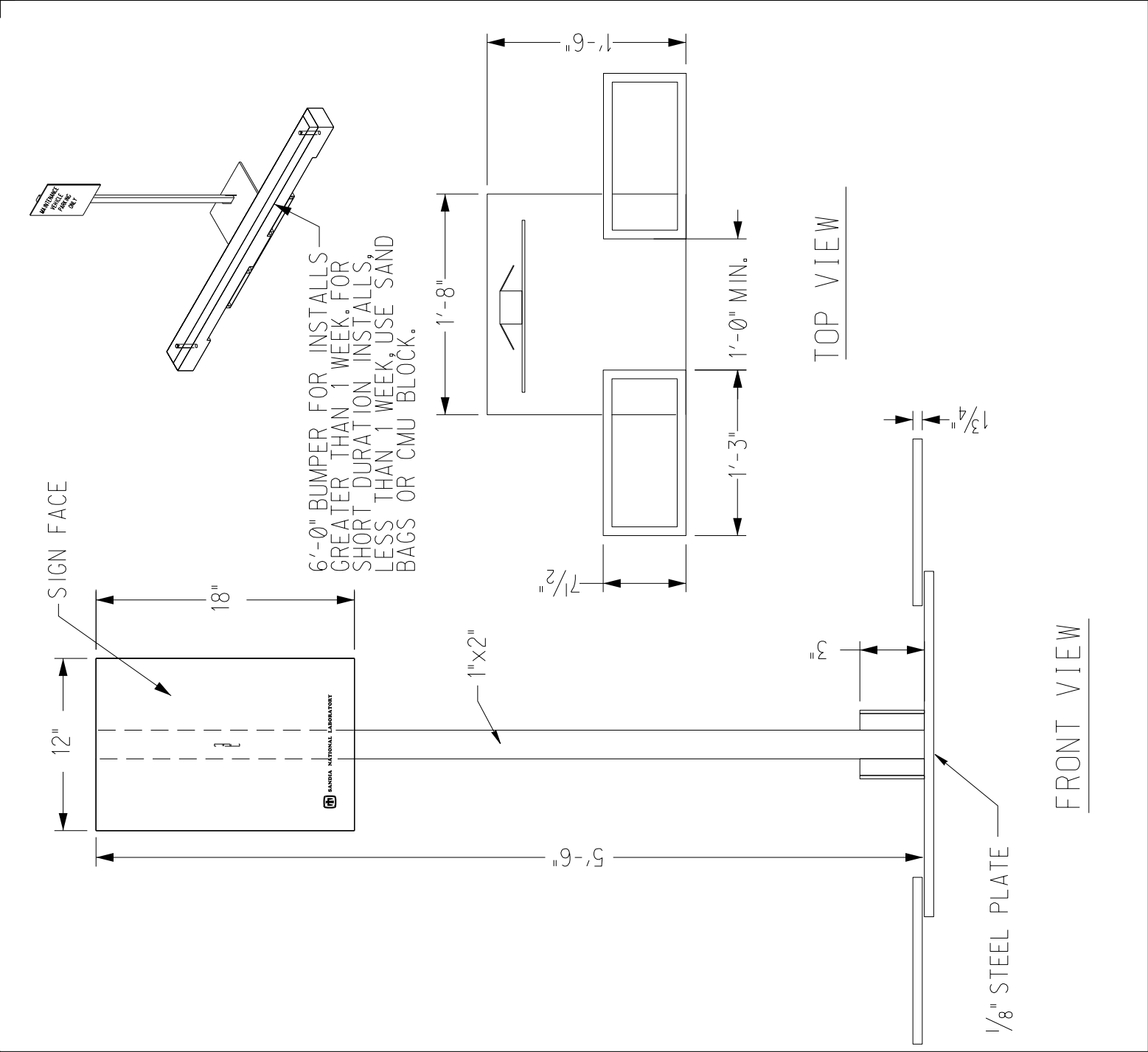


FRONT VIEW

SIDE VIEW

|              |      |
|--------------|------|
| REV:         | 1    |
| PREPARED BY: | MT   |
| CHECKED BY:  | TR   |
| DATE:        | 1/12 |
| REV:         |      |
| PREPARED BY: |      |
| CHECKED BY:  |      |
| DATE:        |      |
| REV:         | 0    |
| PREPARED BY: | PES  |
| CHECKED BY:  | MJB  |
| DATE:        | 3/07 |

|                                      |  |                             |
|--------------------------------------|--|-----------------------------|
| SANDIA NATIONAL LABORATORIES         |  | OLD FILE NAME:              |
| TEMPORARY<br>UNDER BUMPER SIGN MOUNT |  | DRAWING NO.:<br>AE5044      |
|                                      |  | SCALE:<br>NONE              |
|                                      |  | ARCHITECTURAL<br>DISCIPLINE |



|              |      |
|--------------|------|
| REV:         |      |
| PREPARED BY: |      |
| CHECKED BY:  |      |
| DATE:        |      |
| REV:         | 3    |
| PREPARED BY: | MT   |
| CHECKED BY:  | TR   |
| DATE:        | 1/12 |
| REV:         | 2    |
| PREPARED BY: | DAC  |
| CHECKED BY:  | JJM  |
| DATE:        | 3/09 |

SANDIA NATIONAL LABORATORIES

DRAWING NO.:

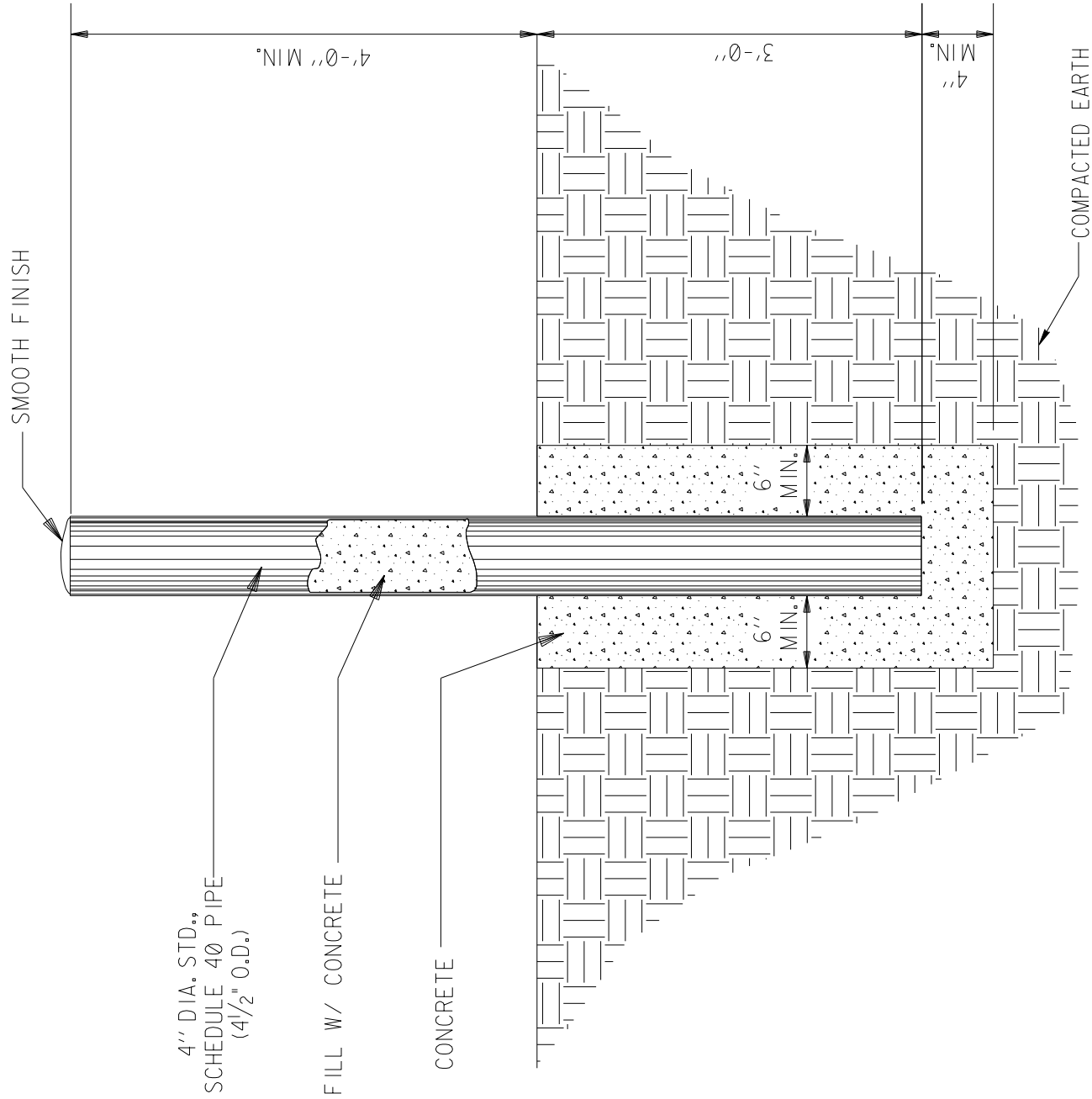
C-5003

SCALE:

NONE

GUARD POST DETAIL

CIVIL  
STANDARD



NOTE:

PRIME ENTIRE POST W/2 COATS EXTERIOR ENAMEL PRIMER.  
PAINT EXPOSED SURFACE W/2 COATS TRAFFIC YELLOW ENAMEL.

|              |       |
|--------------|-------|
| REV:         | 2     |
| PREPARED BY: | MT    |
| CHECKED BY:  | TR    |
| DATE:        | 12/11 |
| REV:         | 1     |
| PREPARED BY: | PS    |
| CHECKED BY:  | TR    |
| DATE:        | 6/07  |
| REV:         | 0     |
| PREPARED BY: |       |
| CHECKED BY:  |       |
| DATE:        | 6/01  |

SANDIA NATIONAL LABORATORIES

DRAWING NO.:

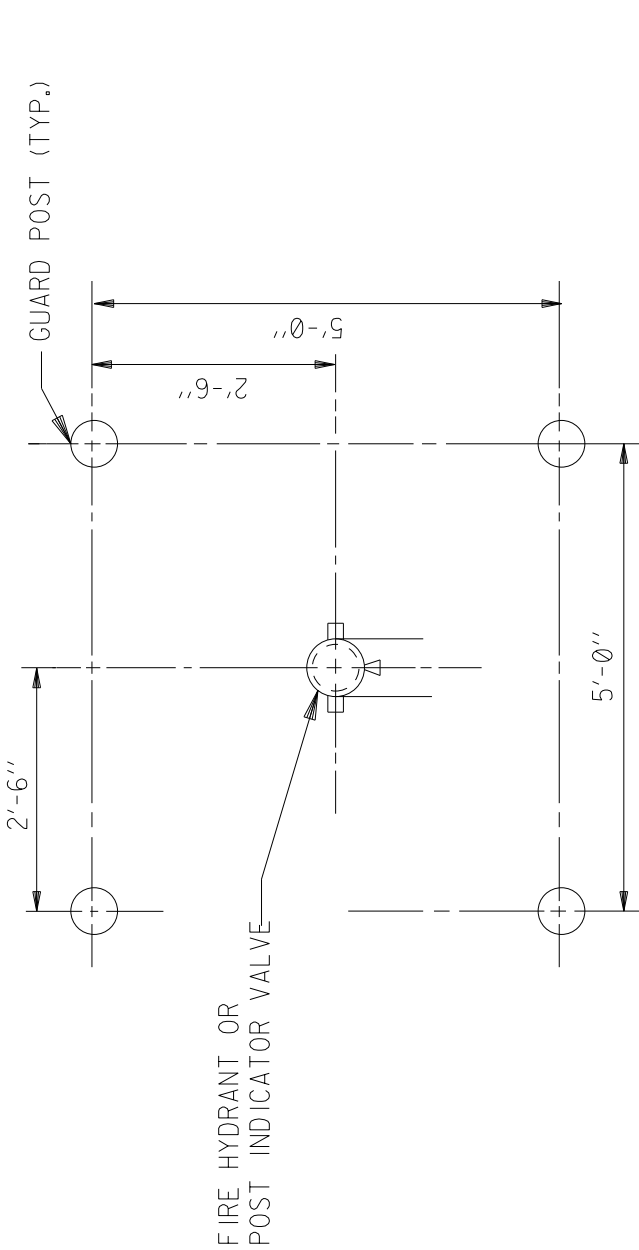
C-5006

SCALE:

NONE

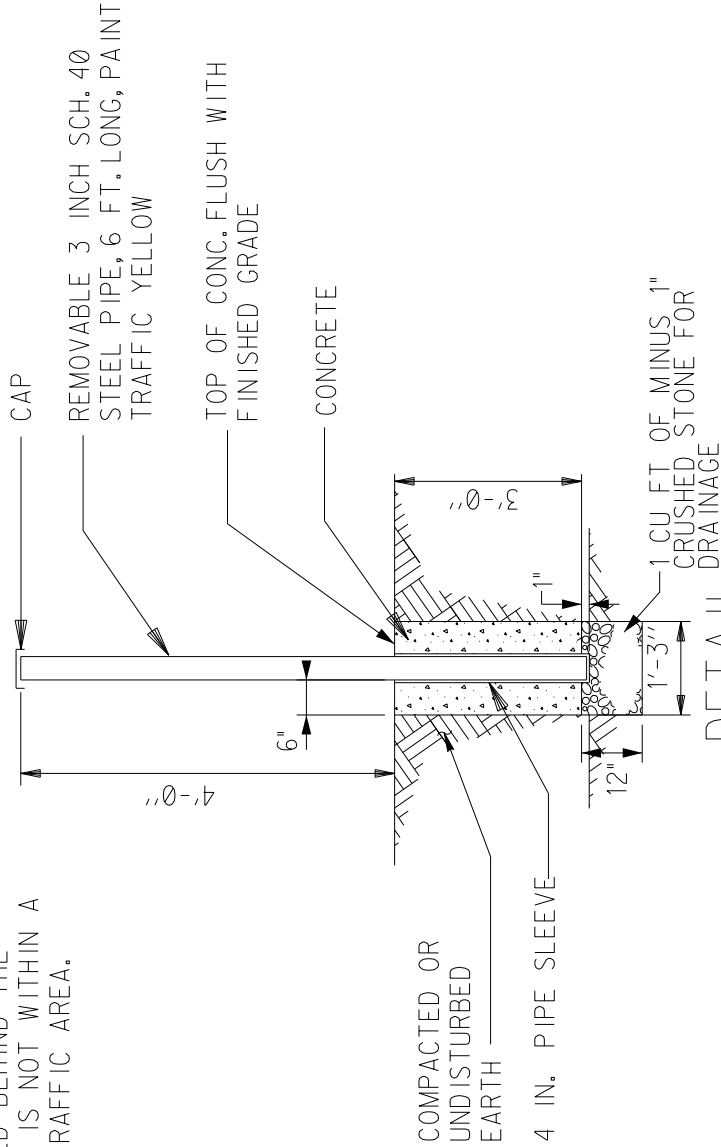
GUARD POST LAYOUT

CIVIL  
DISCIPLINE



NOTE:  
GUARD POSTS ARE NOT  
REQUIRED IF FIRE HYDRANT  
IS LOCATED BEHIND THE  
CURB AND IS NOT WITHIN A  
VEHICLE TRAFFIC AREA.

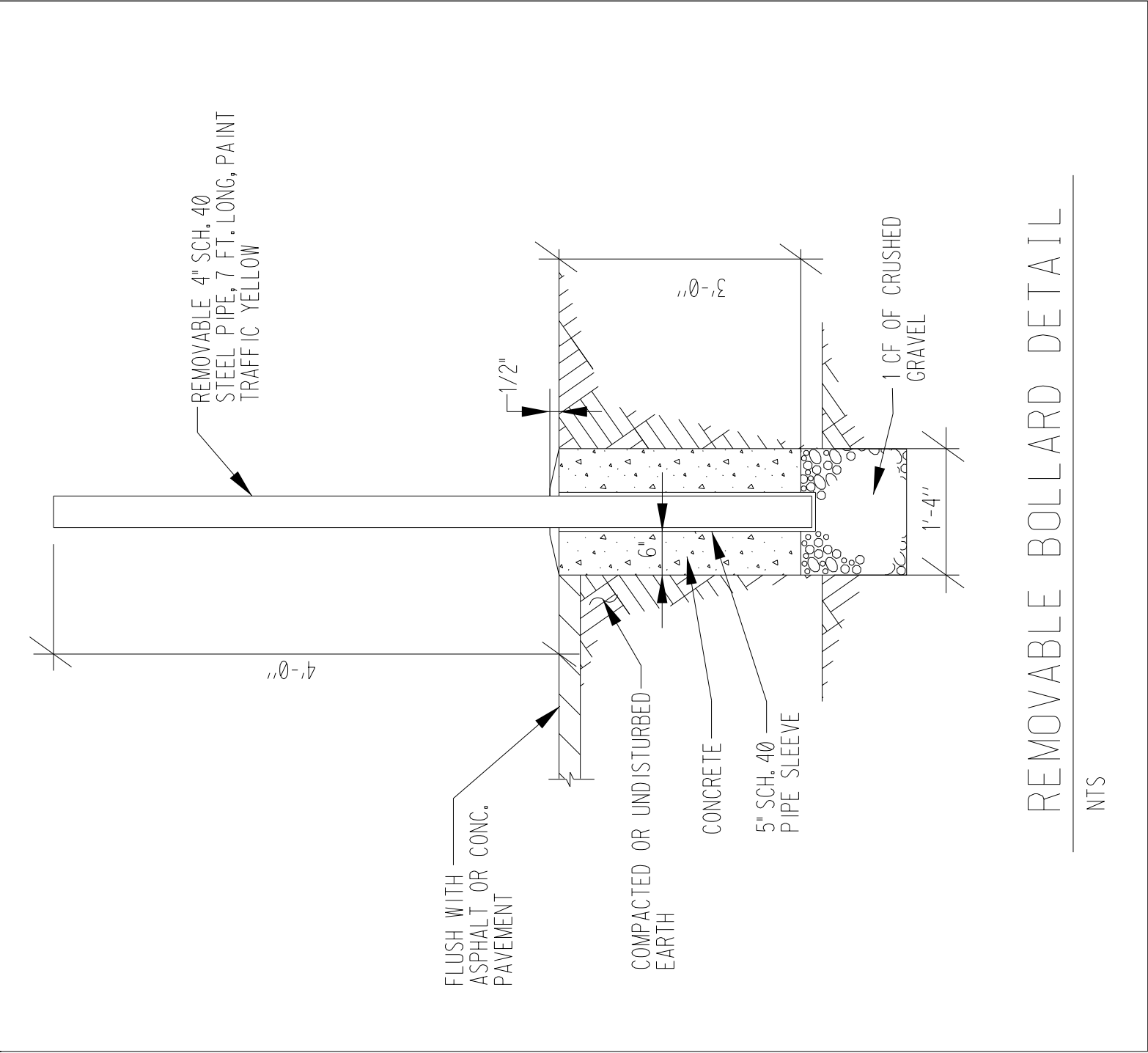
PLAN



DETAIL

|              |  |
|--------------|--|
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| PREPARED BY: |  |
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| DATE:        |  |
| REV:         |  |
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|--------------------------------|--|------------------|--------|
| SANDIA NATIONAL LABORATORIES   |  | DRAWING NO.:     | C-5009 |
|                                |  | SCALE:           | NONE   |
|                                |  | CIVIL DISCIPLINE |        |
| REMOVABLE STEEL BOLLARD DETAIL |  |                  |        |
|                                |  |                  |        |
|                                |  |                  |        |

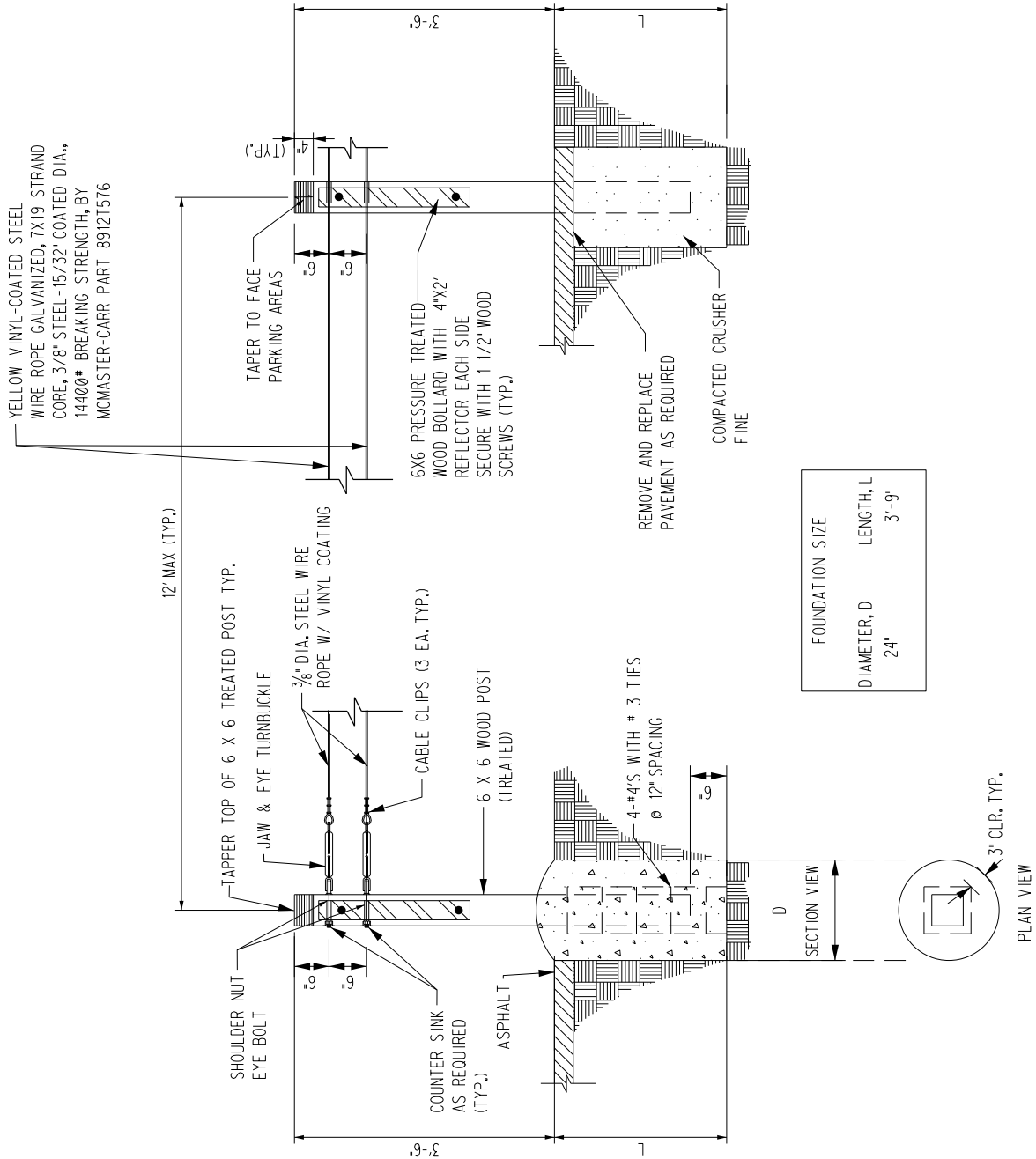


|              |      |
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| REV:         | 1    |
| PREPARED BY: | MT   |
| CHECKED BY:  | TR   |
| DATE:        | 2/12 |
| REV:         |      |
| PREPARED BY: |      |
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| DATE:        |      |
| REV:         |      |
| PREPARED BY: |      |
| CHECKED BY:  |      |
| DATE:        |      |

SANDIA NATIONAL LABORATORIES

WOODEN CABLE BARRIER FENCE

|              |           |
|--------------|-----------|
| DRAWING NO.: | C-5010STD |
| SCALE:       |           |
|              |           |



END POST DESIGN

INTERMEDIATE POSTS